

DWIGHT WILLARD TAYLOR (1932–2006): HIS LIFE AND MALACOLOGICAL RESEARCH

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ABSTRACT

Dwight Willard Taylor (1932–2006) was a malacologist and paleontologist whose research on the systematics and biogeography of freshwater gastropods, particularly the Hydrobiidae and Physidae, resulted in numerous taxonomic innovations and led to extensive research by others. His biogeographical analyses of the distribution of freshwater mollusks, particularly from western North America, were provocative and stimulating. His research on endangered or threatened species was influential in the conservation of those species and their habitats. He published 65 papers and 9 abstracts, and authored numerous internal reports to federal and state agencies, primarily for the U.S. Geological Survey and the U.S. Fish and Wildlife Service. He described 132 taxa, comprising 12 family-level taxa, 31 genus-level taxa, and 89 species; most of his taxa were in the Hydrobiidae (54) and Physidae (39), and he was involved in the founding and early development of Malacologia.

Key words: biogeography, Hydrobiidae, Physidae, Dwight W. Taylor.

BIOGRAPHY AND ANALYSIS OF TAYLOR'S RESEARCH

Dwight Willard Taylor's malacological research on freshwater mollusks led to a number of significant accomplishments. This biographical essay discusses his life, his professional career, and his research.

He was born on January 18, 1932, in Pasadena, a suburb of Los Angeles, California. His parents were Daniel Dwight Taylor (died 1969), an engineer at Beckman Instruments, and Sarah Willard Taylor (died 2002). Through his mother, the family was wealthy twice over. His maternal grandfather was Henry K. Willard of Washington, D.C., whose father was the founder of the Willard Hotel, the well-known luxury hotel on Pennsylvania Avenue, midway between the White House and the Smithsonian's National Museum of Natural History (Wallace & Carr, 1986). His maternal grandmother, Helen Willard, was the daughter of E. Southard Parker, the president of several banks in Washington, D.C. (Anonymous, 1966a, b). He was raised in Altadena, near Pasadena, in a baronial Spanish-Mediterranean mansion, at 1955 Mendocino Lane, in the foothills of the San Gabriel Mountains.

High School Years (1945–1949)

Taylor was educated at the Webb School, a private boarding school in Claremont, California, in the foothills east of Pasadena. The Webb School, then as now, is unique among high schools in having a significant focus on paleontology, which arose from the interests of a charismatic biology teacher, Raymond Manfred Alf (1903–1999). Mr. Alf, during a school field trip, was the first to discover the fossil of a peccary, or wild pig (Jameson & McMillin, 1985; Lofgren, 2000, 2005; Woo, 1999). Mr. Alf was a mentor to several generations of students, a number of whom went on to distinguished careers in paleontology, notably including Malcolm Carnegie McKenna (class of 1948), longtime curator of vertebrate paleontology at the American Museum of Natural History, and Taylor (class of 1949)¹. Taylor was later the best man at McKenna's wedding.

In 1968, the Webb School opened the Alf Museum of Paleontology to house the sizable collections amassed by Mr. Alf and his students; this remains the only high school museum in the U.S.A. that is formally accredited (www.alfmuseum.org). The funds for building

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¹In the 1980s, Taylor received significant research funding from the Philip McKenna Foundation, which was established by the uncle of Malcolm McKenna, and derived its endowment from Pittsburgh steel money.

the Alf Museum came primarily from Webb School trustee George Getty². Taylor's parents donated funds for the "Dwight Willard Taylor Laboratory of Biological Sciences," a teaching laboratory and classroom adjacent to the museum exhibits. He honored Mr. Alf by describing *Helminthoglypta alfi* Taylor, 1954, a fossil terrestrial gastropod; the type material included specimens collected by Mr. Alf and his students. Don Lofgren, the Director of the Alf Museum, aptly described Mr. Alf's enthusiasm for teaching, based on the recollections of former students:

"Ray employed many innovative teaching methods that he had developed over the years for his students or *The Boys*; he always referred to his former students as *The Boys* whether they were from the class of 1939 or 1969 ... Ken De Nault '61 reflected on another of Ray's simple but effective teaching methods ... 'Finally, when I did get it right, I received the highest praise a Peccary Man could receive – *Good Boy*. Through all of this Ray was teaching. The lesson was that what was in our pan was what we created. The only one responsible was our self. This was an important lesson for life ahead of us.' Ray led by example. This did not escape the notice of his students ... 'His exhortations to have the *fighting heart* and to know that *each day was a test of a man's character* were far from empty rhetoric'." (Lofgren, 2000: 2; italics in original).

During his high school years, Taylor also came to know S. Stillman Berry (1887–1984), a malacologist who published extensively on nearly all the classes and orders of mollusks and edited the *Leaflets in Malacology* from his home research laboratory in Redlands, southeast of Pasadena, and John Q. Burch (1894–1974), a shell and book dealer in Los Angeles, who edited the *Minutes of the Conchological Club of Southern California*.

While at the Webb School, Taylor began to assemble what became a sizable working library of malacological literature, with an emphasis on publications treating non-marine mollusks. Taylor was among the earliest customers of one of us (Johnson), who as a college student had started selling mollusk books from his parents' home.

The Mollusks of Nantucket

While growing up, the Taylor family, including Dwight and his two sisters (Sarah and Margaret), spent their summers at Grandma Willard's house on Nantucket Island, Massachusetts, where she maintained a summer residence from the 1920s through her death in 1966. Nantucket is unusual among summer resorts in having a historically important scientific research station, the Nantucket Maria Mitchell Association, named after the first female astronomer in the U.S.A., and which has a children's nature program. Taylor explored the diverse molluscan fauna of Nantucket, both marine and terrestrial, starting under the dotting tutelage of Miss Grace Wyatt, a summer scholar at the Maria Mitchell Association who ran the summer programs, which included extensive nature walks (Anonymous, 1955; Drake, 1968).

Taylor also began corresponding with William J. Clench (1897–1984), then curator of mollusks at the Museum of Comparative Zoology, and one of us (Johnson), then an undergraduate at Harvard. His letters, written from both Nantucket and the Webb School, reveal him to be enthusiastic about collecting mollusks, and remarkably interested in their taxonomy and biogeography. For example, in 1948, at the age of 16, he asked Clench how to differentiate the nominal species of the marine bivalves *Astarte* and *Gemma*, and said that he had "started working on *Amphimelania*, more for practice than anything else, and am dismayed at the chaos I have found," largely because Bourguignat had described so many species, but he concluded that "it is an awful lot of fun, and I heard of people I had never thought of before (Spiridion Brusina, for example)." (D. W. Taylor to W. J. Clench, *in litt.*, July 31, 1948).

In 1949, at the age of 17, while a senior at the Webb School, he reached the national finals of the Westinghouse Science Scholarship Program. This is a prestigious talent competition that (in 1949) culminated with 40 bright high school students from across the country, selected from a much larger pool of applicants, traveling to Washington, D.C. to present the

²George Franklin Getty (1925–1973) was the only one of the four sons of oilman J. Paul Getty (1892–1976) to attend the Webb School (class of 1942), and presumably his exposure to geology under Mr. Alf helped him serve as Executive Vice President of Getty Oil Company. George died young, shortly after helping start the Alf Museum (Pearson, 1995; West, 1973).



FIG. 1. Cover, *Science News Letter*, showing Taylor as one of the two top finalists in the Ninth Annual Science Talent Search for Westinghouse Science Scholarships in March 1949 (Anonymous 1949d).

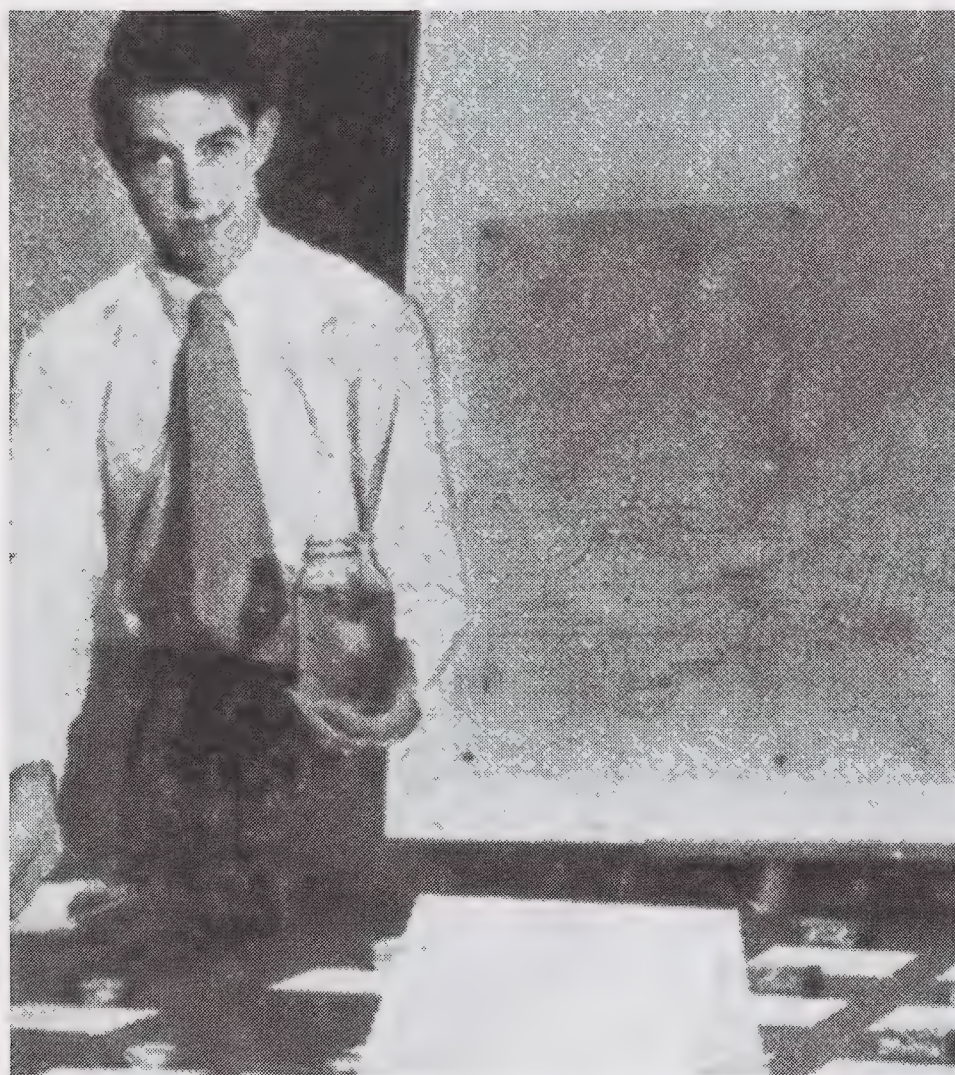


FIG. 2. The Ninth Annual Science Talent Search for Westinghouse Science Scholarships in March 1949. Taylor is standing in front of his hand-drawn map of Nantucket, with mollusk specimens on the table and a jar of specimens in his left hand (Taylor 1949b, courtesy of Paul Valentich-Scott).

results of their research projects, and to meet with President Truman in his office at the White House, members of Congress, and government researchers. This competition continues today, now sponsored by the Intel Corporation.

From March 3 to 7, 1949, Taylor was in Washington, D.C., along with 39 other high school students, who were selected from a pool of 16,218 applicants (Anonymous, 1948, 1949a–e). His project was titled “A malacological survey of Nantucket Island, Massachusetts,” and his extensive collecting increased the number of known molluscan species from 45 to 120. The brochure of this competition included an excerpt from his essay as one of only two essays selected for publication (Taylor, 1949b). This essay reveals a precocious scholar who used his extensive collections to draw inferences about the ecological and biogeographical relations of the marine mollusks

of Nantucket. Taylor also discovered two new exposures of fossil-bearing strata on the island, aided in that search by the paleontological skills he learned from Ray Alf.

The press coverage of this competition was quite adulatory, particularly once Taylor was selected as the recipient of the Grand Scholarship of \$2,800 (the remaining competitors received smaller scholarships ranging from \$2,000 to \$100). For example, the *Science News Letter* described Taylor as “the nation’s top young scientist of 1949” and featured him on the cover (Anonymous, 1949d) (Figs. 1, 2), while *Time* magazine described him as “top of the crop” (Anonymous, 1949e). He was not modest about his accomplishments: “To Dwight, the announcement came as no great surprise. ... he has also been studying the distribution, taxonomic position and ecology of mollusks in Southern California. Where would all this lead him (after four years at the University of Michigan)? ‘Oh, I’ll probably end up in some university museum or something. One can’t live on just nothing’.” (Anonymous, 1949e).

The Webb School was justifiably proud of this accomplishment, since he was their first student to be a Westinghouse finalist, let alone the national champion. The school’s yearbook for 1949 includes two photos of the “parade” upon his return from Washington, D.C., in which he rode in the back of an open convertible through the campus, underneath a banner, “Welcome Home Dwight” and surrounded by cheering students, much as in a parade for the astronauts returning from the moon (Figs. 3, 4). In 1954 and 1955, two other Webb students, Patrick Muffler and David Fleishhacker,³ also became Westinghouse finalists for their research on fossil mammals (oreodonts), and Mr. Alf arranged to have all three (Taylor was then in graduate school at Berkeley) photographed together on campus, and the poster-sized photograph is on display at the Alf Museum (Fig. 6). In retrospect, this excessive adulation at an early age may have affected Taylor’s perception of his own abilities in comparison to those of his colleagues.

He concluded his Westinghouse essay by noting that he planned to investigate those

³Leroy John Patrick Muffler (class of 1954) obtained his Ph.D. in geology at Princeton University in 1962, and spent his career at the U.S. Geological Survey, where he was promoted to Western Regional Geologist, and later Acting Director of the Menlo Park office. David Fleishhacker (class of 1955) became a teacher and administrator at several private schools in California. He was a scion of the well-known San Francisco family; Herbert Fleishhacker (1872–1957), a banker, founded the Fleishhacker Zoo, now the San Francisco Zoo, and built Fleishhacker Pool, then the world’s largest swimming pool and now the parking lot for the zoo.



FIGS. 3, 4. At the Webb School (Claremont, California) in March 1949. FIG. 3 (Top): The “parade” at the Webb School upon Taylor’s return from the Westinghouse competition. Photo from *El Espejo* (yearbook) for 1949 (courtesy of Don Lofgren); FIG. 4. (Bottom): Thompson Webb, Director of the Webb School, presenting Taylor with the “key” to the Webb School. Photo from *El Espejo* (yearbook) for 1949 (courtesy of Don Lofgren).

fossil outcrops in greater detail, “eventually undertaking a comparison of the Recent and Pleistocene faunas”, which “will lead to a study of Quaternary geologic and climatic changes in the area” (Taylor, 1949b: 20), but did not publish that study. Of the remaining competitors in 1949, the only other recognizable name is Walter Gilbert, who went on to become chairman of the Cellular & Developmental Biology department at Harvard, and who patented his

Nobel-prize winning method for sequencing DNA.

Taylor graduated from the Webb School in 1949. The school’s yearbook, *El Espejo*, included a half-page for each graduating senior, consisting of a photograph and a twelve-line rhyming poem about that student. The yearbook photograph shows him examining an article with illustrations of snail shells (Fig. 5), and the accompanying poem is worth quoting:

There also came a lad by name Dwight Taylor,
 Who from his interests now is known as "Snailer."
 The wisdom of his words is not denied,
 Though sometimes they are used to cut or chide.
 Oft *El Espejo*, *Blue and Gold* receive
 His toil; in his lush garden we perceive
 The greenest lawn for leagues – or so he states.
 Although Dwight's grades are not the top, he rates
 As one whom Westinghouse gave passing fame
 And who from far and wide received acclaim.
 On deserts wide for fossils he does search;
 And near both stream and pond pursues research.

(Webb School, 1949: 26)

Pete Akin, one of Taylor's classmates, told one of us that Taylor, who was on the yearbook staff, not only wrote his own poem, but also wrote most of Akin's poem. Taylor's poem recognizes his passion for fossils, freshwater snails, and writing for a public audience.

Undergraduate Years (1949–1953)

In his senior year, Taylor was faced with the choice of where to apply for college. He could have followed Malcolm McKenna to the University of California, Berkeley. McKenna, although only an undergraduate, had already learned so much paleontology from Mr. Alf, that the faculty made him the teaching assistant for the graduate courses in paleontology (Bell, 2004: 11). Alternatively, Taylor could have applied to Harvard University, since he had used the Museum of Comparative Zoology mollusk collections and library for identifying his Nantucket specimens, ably guided by William Clench and Ruth Turner, or he could have applied to Stanford University, the alma mater of Stillman Berry, and where Myra Keen was mentoring several generations of malacologists. However, Taylor chose to do his undergraduate studies at the University of Michigan.

Although Michigan has extensive non-marine mollusk collections, then curated by Henry van der Schalie (1907–1986), his interest in Michigan was also motivated by the opportunity to work with Claude William Hibbard (1905–1973), the vertebrate paleontologist whose novel methods for collecting small-sized mammalian fossils revolutionized mammalian paleontology by greatly expanding the scope of recoverable specimens (Adler, 2007: 191–192). Hibbard was affectionately known as "Hibbie" to his students, who regarded him as a "larger-than-life character," and his "inspired

teaching and infectious enthusiasm for the pre-historic world" motivated even the zoology students to pursue paleontological research. (K. K. Adler to A. R. Kabat, *in litt.*, Jan. 5, 2008). Taylor's studies and field work under Hibbard allowed him to become extensively familiar with the stratigraphy and geologic history of the Midwest states, including Kansas, Nebraska, and Oklahoma, and westwards to Wyoming and Montana (Anonymous, 1957). He also enjoyed interacting with Harold (Hal) Harry (1921–1995), a graduate student who became "a willing advisor, stimulating field trip companion, and generous host" (Taylor, 2002b: 159).



FIG. 5. Taylor examining article with illustrations of gastropod shells, Webb School yearbook photograph, 1949 (courtesy of Don Lofgren).

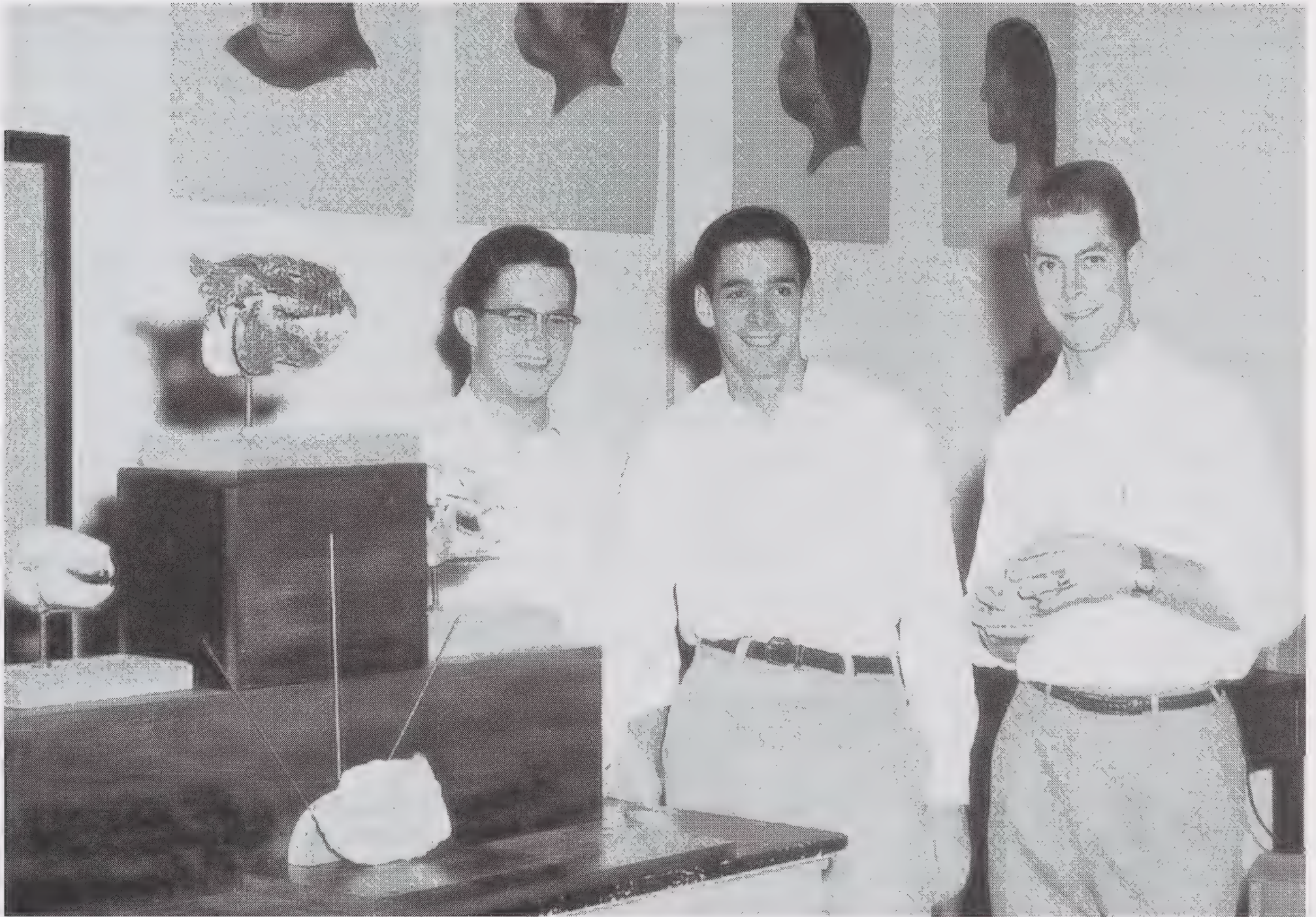


FIG. 6. The Webb School's finalists in the Westinghouse Science Talent Search of America (left to right): Patrick Muffler (class of 1954); David Fleishhacker (class of 1955); Dwight W. Taylor (class of 1949). This photograph was probably taken in 1955, and a poster-sized version is on display at the Alf Museum (courtesy of Don Lofgren).

While an undergraduate, Taylor published two short papers in *Leaflets in Malacology*, edited by Stillman Berry. The first described three new species of *Pyrgulopsis* from the Colorado Desert region of southern California (Taylor, 1950), and the second discussed the freshwater mollusks of Yellowstone National Park, Wyoming (Taylor, 1952). He candidly admitted, 20 years later, that two of the new species in his 1950 paper were junior synonyms, but he gratefully recognized Berry's encouragement: "With pleasure I dedicate this work to Stillman Berry, a long-time friend and mentor. Perhaps it will make up in part for the time and trouble he took in encouraging me, from high-school days on ... Like many budding zoologists, I thought in my early days that finding a new species and publishing a paper were about the ultimate achievements in life. Well, you have to get it out of your system. And Stillman helped me ... Although I never told him so, I realized later that this was a pretty half-baked job. Two of the three species I

thought I was naming are synonyms, and belong to a different genus, and probably are the same species anyway. The illustrations are rather sketchy. And one should not describe Hydrobiidae from shell alone until a fairly thorough search for living snails has been completed. But I like to think that Stillman saw I could go beyond species-naming, and that the sooner I passed through that phase the better." (Taylor, 1970).

In 1951, while an undergraduate, Taylor obtained a copy of Alfred Russell Wallace's 1876 treatise: "The Geographical Distribution of Animals." He was proud to have this important book, and inscribed in his copy: "I have wanted this work for a long time. I am now even more sure that I shall be a zoographer. If I may succeed with my data as Wallace did with his, I shall be content." (Barrientos & Springer, 2007: ix).

Taylor withdrew from Michigan, ostensibly because he did not like the cold winters, and transferred to Pomona College in southern

California for his sophomore and junior years. However, he then returned to Ann Arbor to complete his undergraduate studies. During his last year, he overlapped with George Alan Solem (1931–1990), who began his graduate studies at Michigan in 1952, and devoted his career to the study of terrestrial pulmonates, but had a falling out with Taylor.

It was around this time that Taylor's parents expressed their strong expectations that he would use his academic abilities to become a physician or a lawyer, and not devote his life to Cenozoic malacology. As he later told Hibbard, in the ensuing arguments with his parents, "he dissociated himself from the family, but was given one million dollars with the understanding that there would be no additional inheritance and no family contact" (G. R. Smith to A. R. Kabat, *in litt.*, June 19, 2007).

Graduate Studies (1953–1957) and Work at the Survey (1955–1967)

In 1953, Taylor earned his B.S. degree from the University of Michigan, and he promptly enrolled in the graduate program at the University of California, Berkeley, where he received his Master's degree in 1954 and his Ph.D. degree in 1957. One of his roommates at Berkeley was William K. Emerson, later curator of mollusks at the American Museum of Natural History. The Master's thesis, on six Pliocene and Pleistocene mollusk faunas from Kansas and Nebraska, was an outgrowth of his undergraduate collecting work with Hibbard.

While still in graduate school, he published on the non-marine mollusks from the Upper Miocene Barstow Formation, based primarily on specimens obtained during the Webb School field trips with Mr. Alf and his fellow students. In addition to describing *Helminthoglypta alfi*, named for his mentor, he also described the oldest fossil slug known from North America, *Craterarion pachyostrakon* Taylor, 1954 (Arionidae). It may come as a surprise that slugs even have a fossil record (Tracey et al., 1993: 163), but this species is moderately common in the Barstow deposits.

In 1955, Taylor joined the staff of the U.S. Geological Survey (USGS), Paleontology & Stratigraphy Branch, then located at the U.S. National Museum (now the National Museum of Natural History), Smithsonian Institution, Washington, D.C. The Paleontology & Stratigraphy Branch was then the world's largest paleontological research program, with sev-

eral dozen paleontologists and numerous technicians and assistants (Dutro, 2004). When he was at the Survey, J. Thomas Dutro (an expert on brachiopods) was the Branch Chief of the Paleontology & Stratigraphy Branch, and the other Cenozoic molluscan paleontologists, all primarily interested in marine mollusks, included Wendell Woodring (1891–1983) and Harry Ladd (1899–1982), both then approaching retirement, and Druid Wilson (1906–2002).

Even before joining the Survey, Taylor published in its *Professional Paper* series (Taylor 1954), and amassed an impressive publication record while at the Survey. Taylor returned to Berkeley in January 1957, where he successfully defended his Ph.D. thesis, a lengthy analysis of the *Late Cenozoic paleoecology and molluscan faunas of the High Plains* (Taylor, 1957; published as Taylor, 1960; Hibbard & Taylor, 1960).

While at the Survey, Taylor prepared numerous internal agency reports, known as "Examination & Report," which identified fossils that were collected by others, primarily in the western United States. The originals of these typescript reports were given to the sender of the specimens, with a carbon copy retained in the USGS archives. His reports remain valuable in their detailed discussion of the ecological habitat, biogeography, and stratigraphy of the species, particularly as many of his observations were never formally published. Some of Taylor's reports have been cited in the subsequent literature, notably by Malde & Powers (1962) in their studies of the Snake River Plain stratigraphy. These USGS reports are cataloged in a separate annotated bibliography (Kabat, *in prep.*).

In 1958, Taylor wrote that he and most other Survey paleontologists would be unable to do field work, because "a low budget and the termination of support by the AEC [Atomic Energy Commission] and Army have squeezed us rather badly. I'll be going on leave and taking Russian in summer school ... Ability to read Russian will also be quite useful, and I'm glad I can get started learning it. Don't misunderstand; I'd much rather be in the field." (D. W. Taylor to W. K. Emerson, *in litt.*, May 29, 1958). In later years, Taylor's knowledge of Russian allowed him access to the extensive Russian literature on the trans-Beringian distribution of freshwater mollusks, a subject of great biogeographic interest.

Working at the Survey was his first introduction to the regular workplace world, where he had to interact on a daily basis with supervi-

sors, colleagues, and subordinates. Hitherto, he had cloistered himself in an academic environment, where he only had to answer to his faculty advisors, who may have been eccentric or otherwise able to tolerate his personality. Now, however, he was placed right in the middle of a sizable government bureaucracy, with layers of administrators, and mountains of paperwork.

Although Taylor remained respectful of senior mentors at the Survey, such as Ladd and Woodring, he was barely able to tolerate his supervisor, Dutro, who was only a decade older, and his relationships with some of the other geologists and paleontologists rapidly deteriorated. He was seemingly unable to have a professional discussion about stratigraphical issues that did not end up in a shouting match that could be heard down the hallway. Taylor could seldom admit that his colleagues' opinions might be valid.

Among the requirements of working at the Survey were that all manuscripts had to be submitted for internal review and approval before they could be submitted for publication. Taylor chafed under these restrictions, which he viewed as delaying his output, and did not want to have to respond to suggestions for revisions to his manuscripts. Thus, Taylor took advantage of the fact that he was also a Research Associate at the Museum of Zoology, University of Michigan, and several of his papers published during his years at the Survey make no mention of the Survey, let alone publication approval, instead listing his only affiliation as Michigan. Interestingly, the Survey's requirements for internal review are still controversial to some scientists who view this as censorship, as recently reported in the *Washington Post* (Eilperin, 2006).

Taylor needlessly antagonized his colleagues to the point where some repeatedly complained to Dutro (who, of course, already knew of this issue), yet Dutro could not solve this problem. Finally, Dutro asked Ladd how to deal with him, and after much discussion, Ladd chuckled and perceptively said to the effect that, "You can't do anything with Dwight, as he is an idiot savant," meaning that he was brilliant about mollusks, but unable to work with others.

The Smithsonian Mollusk Department

During Taylor's tenure at the Survey, the Mollusk Department researchers included Harald Rehder (1907–1996) and Joseph

Morrison (1906–1983) for that entire time, Paul Bartsch (1871–1960) having retired in 1946 and R. Tucker Abbott (1919–1995) having moved to Philadelphia in 1954. Later came Joseph Rosewater (1928–1985) from 1960 onwards, and Kenneth Boss of the U.S. Fish & Wildlife Service from 1963 to 1966. Morrison, who had published on brackish-water hydrobiids (Kabat & Hershler, 1993: 75), and who was an inveterate collector of mollusks, had some influence on Taylor, at least in the earlier years.

However, Taylor found the Mollusk Department, before the arrival of Rosewater and Boss, to be moribund, writing in 1958 that the University of Michigan was much more active, based on a recent visit: "It was a reassuring and stimulating experience to see an institution where research on Recent mollusks is being carried on. Association with the National Museum tends to get one down gradually." (D. W. Taylor to W. K. Emerson, *in litt.*, May 29, 1958). In 1963, the new East Wing of the U.S. National Museum opened, with more than half of the space devoted to paleontology, including the extensive Survey collections. The Cenozoic mollusk collections and staff moved to the 5th floor, which they shared with the Recent mollusk collections and staff. The Recent mollusk collections took up most of the eastern half of the 5th floor, with the Cenozoic type specimens at the northern end of that space, a situation that remained unchanged until 2000, when the Recent mollusk collections and staff moved to the West Wing to be with the rest of the Department of Invertebrate Zoology.

His professional relations with his colleagues at the Smithsonian who worked on Recent mollusks were more amicable than with the Survey paleontologists, probably since he did not have to discuss stratigraphic matters with them. Yet, Taylor seldom joined those colleagues or their visitors for their regular lunches in the Mollusk workroom, at which all matters malacological and otherwise were routinely discussed.

Among the numerous visitors to the Recent mollusk collections during Taylor's years at the Survey was Bengt Hubendick (born 1916), the Swedish malacologist who had published an exhaustive monograph on the freshwater pulmonate family Lymnaeidae. Hubendick synonymized nearly all of the nominal genera under *Lymnaea* and synonymized hundreds of the described species (Hubendick, 1951). In advance of Hubendick's visit, Boss walked down the hall to arrange for Hubendick to meet

with Taylor, given their mutual interests in freshwater mollusks and that Taylor had recently published on the Lymnaeidae (Taylor et al., 1963). However, as soon as Boss said that Hubendick was coming, Taylor made furious statements about Hubendick's research, and told Boss, in no uncertain terms, that "if you bring that SOB into my office, I will throw him out!" Thus, when Hubendick arrived, Boss had to arrange a delicate choreography to ensure that Hubendick never even walked by Taylor's office, and always took the "long way around" to get to the mollusk collection from the elevators, all without telling Hubendick why. Four decades later, in what was to be the last paper before his death, he remarked on the "pretentious work by Hubendick" (Taylor, 2004a: 279)⁴.

Life in Washington, D.C.

When Taylor first moved to Washington, he lived with Grandma Willard, who resided in one of the largest mansions in the prestigious Kalorama Circle neighborhood, near Rock Creek Park. Her residence, at 2425 Wyoming Avenue, N.W., exceeds 10,000 square ft on three floors, and overshadows its somewhat smaller neighbor, which is now the residence of the Austrian Ambassador.

According to the city directories, Taylor later bought a townhouse on Capitol Hill, at 525 – 4th Street, S.E., several blocks from the Library of Congress. As Boss lived in a much more modest apartment nearby, Taylor gave him a grand tour of the townhouse. Boss, after admiring its features, jokingly said, "Well, if I save my pennies, I hope to be able to buy a place like this." Taylor's immediate rejoinder, "Oh, you'll never be rich!"

While living in D.C., Taylor became a member of a private gentlemen's key club, the Gaslight Club (1020 – 16th Avenue, N.W.), founded in Chicago, and with branches in New York and D.C. He proudly took as guests those few of his colleagues at work whom he tolerated (eventually, only Boss met that criterion), along with several out-of-town visitors, primarily Arthur Merrill and Richard Petit. Boss and Petit well remember the details of the Gaslight Club. One entered an ordinary-looking building, and went into the men's bathroom, located off the lobby. At the back was a wall

on which the member would knock in a coded pattern. A hidden panel in the wall would open, allowing the guard on the other side to see who was in the bathroom, as in a Prohibition-era "speakeasy." Upon being satisfied that the person was a member of the club, the guard would open a secret door, allowing Taylor and his guests to go upstairs to the gentlemen's club, on the second floor.

The exclusive Gaslight Clubs later inspired the Playboy clubs that became popular in the 1960s. There was a bar, a dance floor with a live band, and tables with comfortable leather seats. The men's room within the club was noted for its large copper-lined urinal that ran along an entire wall. The urinal was filled with ice cubes, and had a bank of telephones on the wall above the urinal, so that the inebriated customers could, and did, make telephone calls while relieving themselves. The generously endowed and scantily attired hostesses were numerous and highly attentive, selling overpriced cocktails. One hostess, in particular, always served Taylor, who proudly told Merrill, "She's in love with me." Merrill, older and wiser in such matters, responded, to no avail, "Dwight, she's in love with your money!" This did not stop Taylor from vastly over tipping the hostess who, fortunately, never married him.

Founding of *Malacologia*

In 1959, John Burch at Michigan proposed a new malacological serial, to be called *Malacologia*, to provide a venue for lengthy research papers, including those with detailed anatomical or stratigraphical analyses, given that the other malacological serials then published in the USA either had only short papers (*The Nautilus*) or were narrowly focused on systematic monographs (*Johnsonia*). Taylor later claimed, incorrectly, that he came up with the idea for this journal, based on conversations he had with Burch at a disreputable bar on Capitol Hill at 8th Street S.E., located near the U.S. Marine Corps barracks, and known for its regular fights among the customers. Burch instead dated the formal founding of *Malacologia* to a discussion in June 1961 held by Burch, Melbourne Carriker, Robert Robertson and Taylor (Burch & Huber, 1968: 29).

⁴As this paper was published in a bilingual journal with English and Spanish texts in parallel columns, this phrase was carefully translated as "del pretencioso trabajo de Hubendick."

At the 1961 meeting of the American Malacological Union, Burch, Taylor, and several other malacologists formed the Institute of Malacology (the name was Taylor's idea), the sponsor for *Malacologia* (Carriker came up with the journal's name). Burch prepared a grant application, which the National Science Foundation approved, covering journal expenses for the first three years. The first issue of this new journal, published in November 1962, led off with a carefully annotated and highly useful "An outline of gastropod classification" (Taylor & Sohl, 1962) co-authored by Taylor and Norman Sohl, a Survey paleontologist who worked on Mesozoic gastropods. In that issue, Taylor was listed as the President of the Institute of Malacology.

However, his involvement with the Institute of Malacology took a downward turn. While Burch was away on travel, he entrusted Taylor with the editing and publishing of volume 3 of *Malacologia*. He used that opportunity to publish a paper that described a new genus and species, *Fontelicella californiensis*, a minute freshwater gastropod (Hydrobiidae), based on a single type specimen, but with no illustration of the type specimen (Gregg & Taylor, 1965). Burch, upon his return, was concerned that this paper was published, since it would have benefited from careful review and illustrations of the new species. Also, another author's manuscript was "bumped" in order to publish this paper. Boss tried to act as an intermediary, but was told by Taylor that, "my descriptions are so perfect that no illustrations are needed." Taylor later resigned from the Institute and ceased any further involvement with *Malacologia*.

Wendell Gregg (1898–1979) was a physician who had an extensive collection of the non-marine mollusks of southern California and adjacent regions. After Gregg and Taylor published their 1965 paper, they prepared a lengthy manuscript on other species referable to *Fontelicella* but, as Walter Miller (1918–2000) of the University of Arizona later wrote, "Unfortunately, he [Gregg] and Dwight had a bitter disagreement on how to proceed after their first publication and Gregg refused any further collaboration" (W. Miller to R. Hershler, *in litt.*, Mar. 3, 1988).

Professional Societies

Although Taylor did not attend American malacological meetings in his later years, in the 1950s and 1960s he did attend several

meetings of the American Malacological Union (AMU, now the American Malacological Society), and its offshoot, the AMU-Pacific Division (today's Western Society of Malacologists, WSM). Specifically, he joined the AMU in 1946, and his attendance was recorded at the AMU meetings in 1947 (Pacific Grove), 1950 (Chicago), 1958 (Ann Arbor), 1966 (Chapel Hill), and 1967 (Ottawa); and the AMU-Pacific Division in 1966 (Seattle) and 1967 (Pacific Grove). He, or his co-authors, presented papers at the 1966 and 1967 meetings of the AMU-Pacific Division, and the 1969 meeting of the WSM. Taylor submitted a paper on endangered Western freshwater mollusks to the symposium on "Rare and Endangered Mollusks of North America" at the 1969 AMU meeting, but did not present his paper at that meeting. Clif Coney subsequently added Taylor's name to an abstract for the 1985 WSM meeting, after Coney had presented a paper under his name alone on freshwater bivalves. In 1962, Taylor attended the first European Malacological Congress in London, now known as the *Unitas Malacologica* (Fig. 7).

In 1967, Taylor served as Second Vice Chairman of the AMU-Pacific Division. In that capacity, he informed several colleagues that he was going to organize and edit a book, *Malacology in Western America*, which was to include bibliographic chapters on various topics, as well as a world-wide bibliography of published type catalogs. This collaborative project did not proceed further, but did result in two bibliographies authored by Taylor alone (Taylor, 1970b, 1975). Ordinarily, Taylor's position as Second Vice Chairman would have led to his becoming Chairman, and hosting the annual meeting, but he was not nominated to an officer position in 1968, and instead ceased his involvement with that organization. Taylor was present at a meeting on December 10, 1967, that led to the formation of the Western Society of Malacologists, but he evidently did not have a formal role with that organization (M. Woolsey to E. V. Coan, *in litt.*, Dec. 26, 2007).

Taylor also presented a paper at the 1964 meeting of the American Society of Zoologists, and he (or his co-authors) presented papers at the 1957 annual meeting of the Geological Society of America, and the 1992 regional meeting of the Cordilleran Section of the Geological Society of America. He also submitted short papers on the Physidae for malacological conferences in Zhytomyr, Ukraine and Vladivostok, Russia (Taylor, 2002a, 2004b), and attended the first meeting (Korniushin &



FIG. 7. At the First European Malacological Congress, London, 1962. Left to right: John B. Burch, Anne Gismann, Melbourne R. Carriker and Dwight W. Taylor (courtesy of John B. Burch).

Melnychenko, 2002; V. Anistratenko to A. R. Kabat, *in litt.*, May 30, 2007), but did not attend the second meeting (K. A. Lutaenko to A. R. Kabat, *in litt.*, May 21, 2007). In 2004, Taylor made a second visit to Ukraine to collect freshwater snails in the region around Kiev.

In the late 1970s, James McLean of the Los Angeles County Museum of Natural History saw Taylor at a meeting of the Geological Society of America in San Diego. McLean, who had known him since the early 1960s, suggested that he should resume attending the meetings of malacological societies, since so few people in the field knew him. The response was to the effect that he “would rather not be known,” and that he did not like any of the people conducting research in freshwater malacology.

Biogeographic History of the Snake River

Some of Taylor’s major contributions to molluscan biogeography arose from his studies of the fossil and living mollusks of the Snake River in southern Idaho. The modern Snake River originates in northwestern Wyoming and flows westwards across southern Idaho before turning sharply northwards through the Hells Canyon to Lewiston, where it turns westwards again through southeastern Washington and flows into the Columbia River. The Snake River currently drains most of southern Idaho, except for the Bear Lake region in the southeastern corner.

In the late 1950s, Taylor made a reconnaissance field trip to the Snake River Plain with Survey geomorphologist Harold Malde and

volcanologist Howard Powers. Later, when Malde was mapping the Glenns Ferry area, Taylor worked as his field assistant. These and other collecting trips to the Snake River region resulted in numerous internal Survey reports, in which Taylor documented over 100 molluscan species, and his reports were a primary source of data for the key paper by Malde & Powers (1962) on the geologic history of the Snake River region.

However, the fact that the Hells Canyon section represents a geologically much younger canyon than the eastern part of the Snake River led other researchers in the mid-1950s to hypothesize that the Snake River did not originally drain north through the Hells Canyon but instead flowed south through Nevada to the Sacramento region of central California. These researchers correctly inferred that the Hells Canyon did not open until fairly recently. Taylor (1960a) instead hypothesized, based on the distribution of several species of freshwater mollusks, that during the Pliocene or early Pleistocene, the Snake River flowed southwest to southern Oregon, into the Klamath Basin. He also hypothesized that the Bonneville Basin of northern Utah (today an isolated, landlocked basin) then drained into the Snake River Basin through the Bear Lake region (Taylor, 1960a). Later he determined that the species studied in his 1960 paper were exceptional, and that the more usual distribution track instead ran from southern Idaho through southeastern Oregon into eastern California, but bypassing the Klamath Basin (Taylor, 1966b: 22, 27). This distributional track, which Taylor was to call the “fishhook” distribution (after its resemblance to a fishhook when drawn on a map), proved influential, with other freshwater organisms seemingly sharing a congruent distributional pattern. His subsequent research provided what appeared to be further confirmation for his novel hypotheses of the drainage history of the Snake River Basin (Taylor, 1985c; Taylor & Smith, 1981).

Recently, Hershler & Liu (2004b: 933–935), based on genetic analyses of species of *Pyrgulopsis* (Hydrobiidae) from this region, instead concluded that the Snake River Basin and Oregon Lakes faunas were not separate monophyletic groups, as would be suggested by Taylor’s hypothesis in which the two faunas were originally connected before the Snake River changed its direction. Instead, they determined that the shared presence of species in both regions, and the weak genetic

differentiation between the two regions, were probably a result of occasional Pleistocene overflow from one basin into the other, without having the Snake River itself flow into Oregon. Thus, although Taylor’s hypotheses concerning the flow of the Snake River may no longer be supported, he did correctly recognize a partially shared fauna between the Snake River Basin and the southern Oregon Lakes region, and his ideas stimulated extensive research into their complex drainage history and biogeography.

Taylor also studied the biogeography of other Pliocene-Pleistocene faunas, which resulted in a major paper on the “Blancan” nonmarine mollusks of the Late Pleistocene and early Pleistocene (Taylor, 1966b). This paper, which summarized all the published data, reviewed numerous museum records, and included extensive comparisons with the fossil mammal and fish faunas of that period, also proved influential in understanding the distribution and evolution of these faunas. G. R. Smith (to A. R. Kabat, *in litt.*, June 19, 2007) identified several key biogeographical hypotheses from this paper, and his earlier paper (Taylor, 1960a), as follows: (1) showing a pattern of distribution of past hydrographic connections does not imply that those connections all existed at the same time (Taylor, 1960a: 325, 332); (2) geological changes have occurred more rapidly than species have evolved, so that early Pleistocene species have persisted in havens where geological changes did not take place while becoming extinct elsewhere (Taylor, 1960a: 333); (3) “tectonic activity can affect the differentiation of mollusks in 2 ways: either directly, by separating areas of formerly continuous habitat or joining formerly isolated habitats; or indirectly by environmental changes,” the former resulting in speciation, and the latter by stimulating natural selection in changing environments (Taylor, 1966b: 14); (4) that the “Nebraskan” glaciation, formerly thought to initiate the Pleistocene, was not the first glacial event in the Great Plains region (Taylor, 1966b: 8–9); (5) the earlier glaciation events were less severe and less widespread than the later (Wisconsin) events (Taylor, 1966b: 9–10); and (6) “species living in a variety of habitats, or in a widely available habitat such as shallow or seasonal ponds” have broader temporal and geographical distributions than those in geologically active and isolated areas (Taylor, 1966b: 16). Malde (1972: 14–15) credited Taylor’s Blancan paper for its

“valuable discussions” of the molluscan species from the Glens Ferry Formation (Pliocene) of the Snake River, Idaho, but concluded that subsequent research cast doubt on his interpretations of the stratigraphic relations of this fauna.

His extensive research on Snake River biogeography led to his developing strong professional relationships with several non-malacological colleagues whose work he was to greatly respect. Although not as strong as his friendship with Hibbard, whom Taylor regarded as his mentor and surrogate parent, and whose style and prejudices he adopted, these colleagues remained major influences. Robert Bright (1928–1995), a paleontologist at the University of Minnesota, and a native of southern Idaho, went on many field trips with Taylor in Idaho and Utah. Aldrich Bowler (1915–2007), a playwright, potter, and environmental activist who lived near Bliss, on the Snake River in southern Idaho (Ronayne, 2007), stimulated Taylor’s appreciation of environmental and conservation issues. Harold Malde (1923–2007), the Survey geologist, looked after Taylor’s well-being from a distance, and helped arrange grant support from the McKenna Foundation. Taylor made two visits of several weeks’ duration to the Venezuela residence of Leon Croizat (1894–1982), the unconventional biogeographer, whose theories on the distribution of animals directly influenced Taylor’s reconstruction of the biogeographic distribution of freshwater mollusks. (G. R. Smith to A. R. Kabat, *in litt.*, June 19, 2007).

Gerald (Jerry) Smith, a professor at the University of Michigan who published extensively on fossil freshwater fishes of the Great Basin, and who made collecting trips with Taylor, was also an influence on Taylor, who later harshly criticized Smith’s biogeographical conclusions. Smith well remembers long conversations with Taylor as they drove across the American west in Taylor’s blue Volvo with a license plate that read “SNAIL.” Smith recognized that study of the Snake River and Great Basin faunas had to be guided by “Taylor’s methods and his principle that hydrologic, topographic, and climatic features change more rapidly than do lineages of organisms.” (Smith et al., 2002: 177). For that reason, Smith emphasized the importance of using biological “data that are independent of geological assumptions,” in order to avoid “the logical circularity inherent in using geological events to date evolution and in using evolutionary differentiation to date geological events.” (Smith et al., 2002: 179).

Hydrobiidae of Cuatro Ciénegas

In 1961, Carl Hubbs (1894–1979), an ichthyologist at the Scripps Institution of Oceanography, and an expert on the desert fishes of the Great Basin, sent Taylor some freshwater gastropods from the desert springs near Cuatro Ciénegas, in the Coahuila state of Mexico. This small desert basin contains numerous interconnected springs, lakes, and streams, with a complex drainage pattern, and its geographic isolation has resulted in numerous endemic species of fishes, turtles, and invertebrates, aptly described as a “new world for biologists” (Taylor & Minckley, 1966). Taylor recognized that “a novel fauna had been found” in the specimens sent by Hubbs, but that fieldwork was required to study these specimens. Hence, when Wendell Minckley (1935–2001), an ichthyologist at Arizona State University, later sent Taylor preserved specimens of “remarkable Hydrobiidae ... he offered an instantly accepted opportunity to visit Cuatro Ciénegas” (Taylor, 1966c: 155). Taylor then made several visits, and these collections resulted in his best-known paper, which described numerous new endemic species, genera, and subfamilies of Hydrobiidae (Taylor, 1966c). This paper was to be the apex of his study of the Hydrobiidae.

Taylor (1966c) described five new genera and twelve new species of Hydrobiidae from Cuatro Ciénegas, all endemic to that small desert basin, then the highest known diversity of hydrobiids from such a small region. Some of the new species were remarkable in being brightly colored, as most freshwater mollusks are drab. One, *Paludiscala caramba*, had strong shell sculpture like a marine snail, and was aptly named after Taylor’s response to seeing the shell: he explained that “caramba” was “an exclamation, loosely translated from my original remarks at seeing the shells. An epitoniid-like snail in the arid interior of northern México is thoroughly implausible” (Taylor, 1966c: 208).

José Parodiz (1911–2007), of the Carnegie Museum, was independently studying the same fauna, but ceased his research upon seeing Taylor’s first paper. Parodiz, who was knowledgeable about the hydrobiids of South America (Kabat & Hershler, 1993: 76), provided suggestions as to genera that could be compared with the Cuatro Ciénegas fauna, but later noted that his comments were completely ignored. Instead, Taylor wrote to Parodiz, admitting that “perhaps you will think I am too

much of a splitter – this question of ranking is always subject to personal interpretation,” and that “you can judge for yourself whether I’m crazy or not!” (D. W. Taylor to J. J. Parodiz, *in litt.*, Oct. 10, 1966). A decade later, Taylor recognized the limitations of his research, noting that it “was necessarily hasty and somewhat superficial, lacking the morphological detail one would like.” (D. W. Taylor to R. Hershler, *in litt.*, Sept. 18, 1978). He placed part of the blame on the “influence of J. P. E. Morrison, the Smithsonian curator who was (supposedly) a source of guidance when I went to Washington, D.C., to work in 1955.” (*Ibid*).

In order to determine the systematic relationships of these new species and genera, Taylor had to diagnose and revise the North American subfamilies of Hydrobiidae, which led to the recognition of four new subfamilies (three endemic) and two new tribes (Taylor, 1966c: 215). Thus, this paper was important not only for the descriptions of the endemic new taxa, but also for its comprehensive, and long-overdue, revision of the higher classification of the Hydrobiidae. Taylor continued to make collecting trips to this region, and his “serendipitous observation” of amphipods trapped in the surface film layer of the springs led to the discovery of new methods for collecting these minute crustaceans, and the naming of “Taylor’s Spring” (Cole, 1984). Inexplicably, he never published again on this fauna, despite his subsequent collections from that region.

Departure from the Survey – the Wandering Years

In early 1965, Taylor obtained a change of station posting that allowed him to work at the University of Michigan Museum of Zoology, while remaining on the Survey’s payroll. Burch arranged with the museum’s director, T. H. Hubbell, for Taylor to serve as an unpaid Research Associate. Since there was no free space in the Mollusk Division, Burch planned for Taylor to share an office with a graduate student, Charlotte M. Patterson, who was studying the Succineidae (Gastropoda: Pulmonata). However, Taylor refused to share the office, so that when Ms. Patterson came to the office the next day, she found all of her belongings on the floor in the hallway. Burch attempted to mollify her by providing her with table space in the Mollusk Division library.

In May 1965, Taylor participated in a National Science Foundation-funded research trip to

Japan to study freshwater gastropods, which actually resulted in a paper on freshwater bivalves co-authored with Teruya Uyeno, formerly a graduate student at Michigan who had studied fossil fishes. (Taylor & Uyeno, 1966) (Fig. 8). This trip started out as a grant proposal written by Burch, which originally was to include two graduate students, George Davis and Charlotte Patterson. Shortly after the grant was approved, Davis received his Ph.D., and obtained his own funding from the U.S. Army to pursue similar research, thereby creating a vacancy in Burch’s project. Hence, Burch asked Taylor if he was interested in participating, and he eagerly accepted. Since Burch, Davis, and Patterson each had their own research projects, they anticipated that Taylor would do his own research in Japan. To their surprise, Taylor immediately prepared a detailed research plan of operation, with numerous preparatory tasks that Burch, Davis, and Patterson were to conduct, all relating to Taylor’s own research. Burch had to explain to Taylor that they were already committed to do their own research, and would not be able to assist him with his own research; he did not appreciate their disinterest. As it happened, Taylor went to Japan separately from Burch, so their paths did not cross, and Burch never saw Taylor again. Burch later commented that Taylor could have made numerous contributions to the malacology and paleontology research programs at Michigan, and could have learned much from his colleagues at Michigan, had he been more willing to work with others in a cooperative manner (J. B. Burch to A. R. Kabat, *in litt.*, Aug. 10, 2007). Davis, who also recognized Taylor’s talents, remarked that he was too narrow in his approach to evolutionary issues, ignoring new developments in phylogenetic methodologies, biogeographic theories, and statistical approaches, thus restricting his conclusions as he was too highly focused on his own interests (G. M. Davis to A. R. Kabat, *in litt.*, Nov. 14, 2007).

In September 1965, Taylor transferred from Michigan to the Survey’s smaller office in Menlo Park, California, just north of Stanford and a short drive south of San Francisco. This transfer was met with relief by Taylor’s colleagues at the Survey in Washington, D.C. As was said to us, Dwight was known for burning his bridges while standing on them.

However, the transfer did not improve his professional relationships. He wrote that, “According to Tom Dutro there will be space for me there, but I have strong opposition from

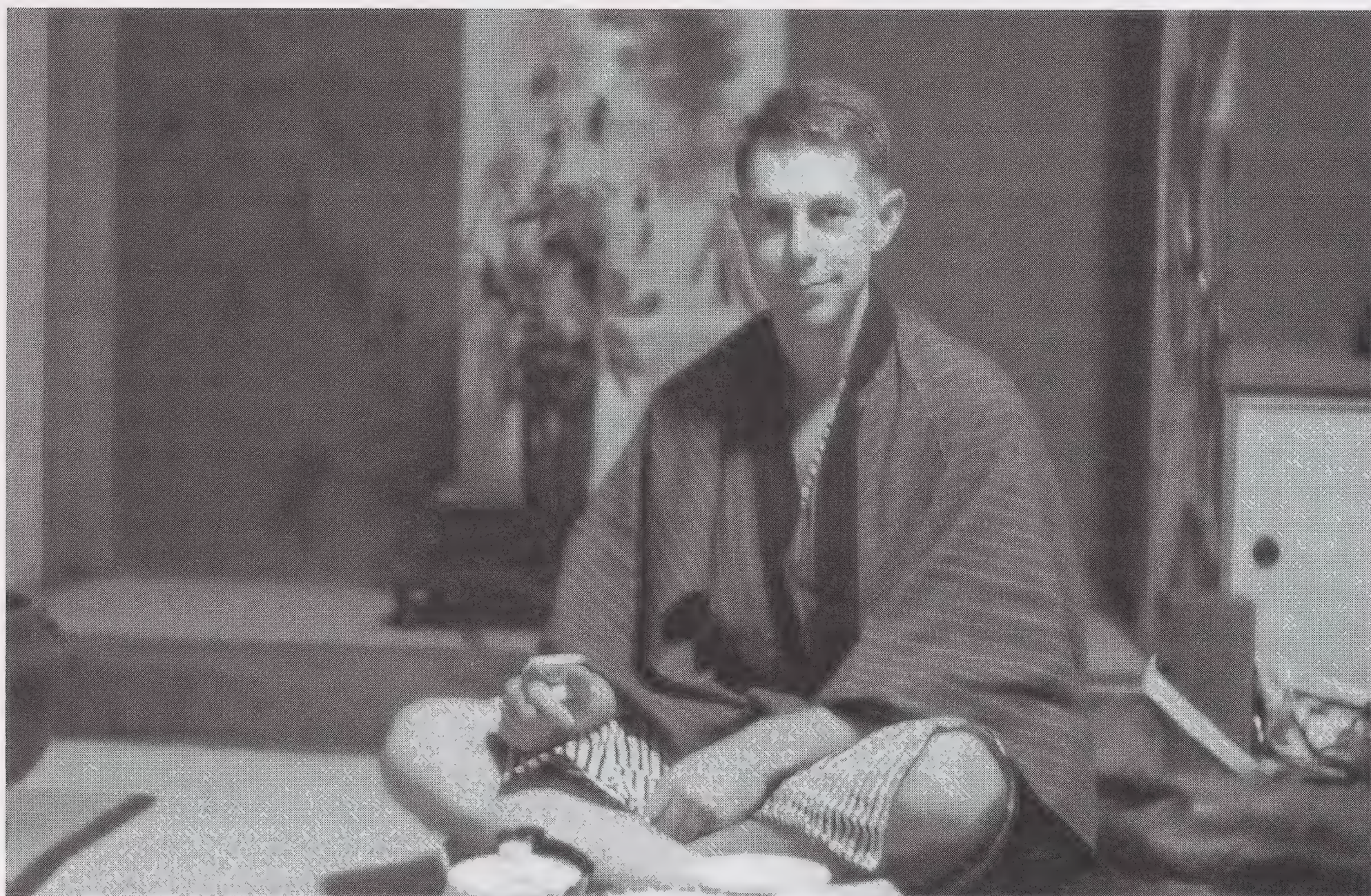


FIG. 8. Taylor, during 1965 visit to Hokkaido, Japan. Photograph taken by Teruya Uyeno (courtesy of Gerald Smith).

several people there and am laying alternative plans – i.e., I'm going to be with the Survey in California, or unattached and working independently on grants in California. We shall see." (D. W. Taylor to W. K. Emerson, *in litt.*, Mar. 8, 1965).

In 1967, he resigned from the Survey and became an Associate Professor of Zoology at Arizona State University (ASU), where Minckley was on the faculty. The Zoology Department was founded in 1962, and Minckley took the lead in developing major research programs in the systematics, biogeography, and ecology of the local fauna (Collins et al., 2002: 258). While at ASU, Taylor taught biology and zoology courses, including the invertebrate zoology course, which had four field trips to the Gulf of California. Taylor also supervised the Master's thesis of Wesley Farmer, who was one year younger than Taylor. Farmer published his thesis in 1970, a review of swimming in marine gastropods.

Taylor then agreed to supervise a second graduate student, Jerry Landye, who was interested in the freshwater mollusks of Cuatro Ciénegas, particularly *Mexipyrghus*. Landye, while a student at Washington State Univer-

sity, had spent several field sessions with Taylor, during which he carefully mentored Landye, by showing him how to record ecological and geological data in the field, and how to collect and preserve specimens. Landye did extensive collecting at Cuatro Ciénegas, both on his own and with Taylor. Thus, Landye was looking forward to pursuing doctoral studies, commencing in the fall of 1969. However, after only two years at Arizona State, Taylor evidently became frustrated with the academic bureaucracy, for he resigned his faculty position in the summer of 1969, shortly before Landye's arrival. Hence, Landye turned to the study of desert fishes and doing consulting work, before returning to the Hydrobiidae, years later. Taylor ended any further contacts with Landye by the mid-1970s.

In the fall of 1969, Taylor moved to San Diego where he became an unpaid Research Associate at the San Diego Museum of Natural History, operated by the San Diego Society of Natural History. While at San Diego, he published two annotated bibliographies on the Cenozoic freshwater mollusks of western North America, which remain essential references (Taylor, 1970, 1975). He also intended

to author a book on the terrestrial gastropods of California, which was not completed (Martin, 1972: 9). He co-authored, with Allyn G. Smith, a biography of Harold Hannibal (1889–1965) that is interesting in its candid description of Hannibal's life:

"Harold Hannibal spent a meteoric career in Tertiary paleontology, and in studying living and fossil freshwater mollusks, during the early years of this century. His brilliant early work was tragically cut short, and he passed more than half his life in a mental institution only a few miles from his birthplace. Today he is remembered mainly through colorful stories dating from the period of his illness." (Taylor & Smith, 1971: 303).

Other than the "mental institution," those words could have been written about Taylor himself.

It was at this time that Taylor generously donated "a substantial part of the publication costs" of the second edition of Myra Keen's *Sea Shells of Tropical West America*, as Keen (1971: v) graciously acknowledged.

Richard Squires, a professor of geology and paleontology at California State University – Northridge, tried to have Taylor serve as the outside reviewer for the master's thesis of Richard Vincent Lamb, who studied the fossil freshwater mollusks found in the La Brea Tar Pits in Los Angeles (Lamb, 1989). Alas, Lamb submitted his thesis proposal one day late, and Taylor rejected the proposal solely because it was late⁵.

The San Diego position also proved short lived, for by 1974, he was at the Pacific Marine Station, operated by the University of the Pacific, and located at Dillon Beach, north of San Francisco, evidently in an unpaid capacity. That affiliation lasted until the University of the Pacific announced that the marine station would be closed in 1979. Hence, in 1978, he moved a few miles to the Tiburon Center for Environmental Studies, operated by San Francisco State University. The Tiburon Center also had two ichthyologists who were interested in biogeography: Tyson Roberts, formerly of Harvard's Museum of Comparative Zoology (MCZ), and Leonard Compagno, now at the South African Museum. That position also did not last long, since several publications in the early 1980s gave his mailing address as his

home address in Tiburon. By 1985 he moved to the Department of Geology, Oregon State University, Corvallis, where he was to spend the rest of his career. The paleontological couple Arthur Boucot and Jane Gray, both on the faculty, recruited Taylor to come to Oregon as a research associate.

While living in California, Taylor resumed attending gentlemen's clubs. At one club, Martha Ruby Chavez, pretended to fall in love with Taylor, and "accepted" his marriage proposal. Taylor, who was 47, was so smitten with his prospective bride that she arranged for her "brother-in-law" to meet him a few days in advance of the wedding. This señor convinced him that he should invest \$50,000 in an orange grove in Mexico. He immediately wrote a check for that amount. The señor, the orange grove, and the money were never seen again (Taylor told others that it was "her father's cattle ranch"). Nonetheless, he married her in Marin County on July 11, 1979. It appears that he never told his former colleagues that he had married, and they never met his wife.

The marriage proved financially disastrous, and Taylor filed a petition to divorce his wife barely six months later, in January 1980, with the divorce finalized on June 9, 1982⁶. Understandably embittered, he later admitted to several colleagues that the marriage was a disaster, but never explained the details.

In order to resolve his financial commitments made before or during the marriage, and to obtain funds to live on, he had to sell most of his sizable malacological library, retaining only key references on freshwater mollusks. James H. McLean of the Los Angeles County Museum of Natural History tried to interest the then-Director, Giles W. Mead, into purchasing the library on behalf of the museum, but even the wealthy Mead balked at the \$200,000 asking price. Instead, in 1984, Taylor sold much of his library, comprising over 90 large boxes, and including complete runs of a number of malacological serials, through Richard Petit on a consignment basis. Alas, many of the rare antiquarian titles, including folio works such as Perry, Gualtieri, and d'Argenville, were previously damaged or destroyed when his Tiburon office was flooded with muddy water from a landslide; Taylor was too distracted by the divorce to dry out those books.

⁵In 1996, Lamb earned his doctorate at the University of Michigan, under Burch, on reproduction in the snail *Zonitoides nitidus*.

⁶*In re the Marriage of Dwight W. Taylor, Petitioner, and Martha R. Chavez-Taylor, Respondent*, No. 96232 (Superior Court, State of California, County of Marin).

Reports on Endangered Species

From 1978 through 1987, Taylor authored a series of internal reports to federal government agencies, principally the U.S. Fish & Wildlife Service (USFWS), on the distribution and abundance of various freshwater mollusks that were candidates for listing as endangered or threatened species under the Endangered Species Act of 1974. Although Congress had passed this legislation, signed by President Nixon, the authority to designate a species as endangered or threatened, which could lead to restrictions on altering the habitat, was delegated to the U.S. Department of the Interior, which, in turn, hired numerous field biologists on a contract basis to prepare these endangered species reports. Taylor's detailed reports were influential to the sponsoring federal agencies and to other researchers, and some have been cited in the formal literature. These reports, and several others submitted to state agencies, are cataloged in a separate annotated bibliography (Kabat, in prep.).

His November 1986 report to the USFWS, on the "Fish Springs pond snail," *Lymnaea (Hinkleyia) pilsbryi* Hemphill, 1890, from Juab County, Utah, regretfully concluded that this species was now extinct, with all known specimens being long dead. Taylor placed blame on those responsible for the extinction of this species: none other than his sponsor. He forthrightly criticized the USFWS for management practices that favored waterfowl (ducks and other game birds) over snails, since enhancing habitats for birds led to the extinction of this snail. Indeed, his report remarked, in all capital letters, that "BIRD FARMS ARE NOT NATURAL HABITAT." It is not surprising that this was his last report for the USFWS⁷.

Biogeographical Research in Oregon

At Oregon State University, Taylor resumed his biogeographical studies, resulting in the publication of several wide-ranging syntheses of the historical distribution of freshwater mollusks. These articles reflected both his decades of research in systematics and biogeography, and his somewhat iconoclastic approach to

these issues. Three papers from 1985, 1987, and 1988 merit further discussion.

First, Taylor, at the invitation of Charles Smiley of the University of Idaho, participated in a symposium, Late Cenozoic History of the Pacific Northwest (June 3–7, 1979), which included a field trip to the Clarkia fossil beds of northern Idaho. The symposium volume contains a lengthy paper, "Evolution of freshwater drainages and molluscs in western North America" (Taylor, 1985c). This comprehensive review of numerous drainage basins from Idaho to Texas concluded that the subdivision of drainages caused (or facilitated) speciation with most speciation occurring in the earlier part of the Tertiary but not in the Pleistocene, even though the Great Basin region had extensive Pleistocene lakes. Yet, Taylor rejected any attempt to use phylogenetic analyses of these mollusks to reconstruct the geologic history of this region. By way of explanation, beginning in the 1970s, some researchers combined cladistic (Hennigian) methods of phylogeny reconstruction with biogeographic analyses in an attempt to show that geologic events correlated with, or caused, speciation. Taylor would have none of this:

"Phylogenetic interpretations thus play no part in these inferred drainage histories. There is no element of cladistic analysis, and none whatever of that abhorrence, 'vicariance biogeography.' I have previously (Taylor, 1960) acknowledged, and do so once more herein, my great debt to the ideas of Léon Croizat." (Taylor, 1985c: 266).

Taylor appears to have fundamentally misunderstood the concept of vicariance biogeography, which is actually based in part on Croizat's work. Croizat was a controversial botanist from Venezuela, who self-published several volumes in the early 1960s on "panbiogeography." These poorly written, almost incomprehensible books, did inspire others, notably Gareth Nelson and Donn Rosen of the American Museum of Natural History, who showed how phylogenetic hypotheses could be applied to geographic regions. Thus, while Taylor's (1985) work sets forth an invaluable compilation and analysis of the molluscan fauna of these drainage basins, his interpre-

⁷Taylor also noted in this USFWS report that Richard H. Russell, who published on this species (Russell, 1971), was "the person with the most nearly first-hand acquaintance with the living species, [who] disappeared from the University of Arizona more than ten years ago while still a graduate student. This is a literal statement. His major professor, Walter B. Miller, and fellow graduate student Carl Christensen, have attested to this astonishing occurrence in person. No one in the field of malacology has heard from or of him since." Similarly, Taylor became increasingly reclusive, with many of his former colleagues no longer hearing from him by the 1980s.

tations of the geologic history were limited by his misunderstanding of biogeographic methodologies.

Further, Taylor did not adopt Croizat's subsequent revisions to his theories, including Croizat's adoption of vicariance biogeography as expounded by Nelson, Rosen, and others. Taylor was skeptical of vicariance biogeography because of its association with cladistic theories of phylogenetic reconstruction, as he rejected the reliance of cladistics on the use of unweighted, derived characters. He instead believed that his expertise allowed him to weight characters and "to synthesize diverse morphological, ecological and geological information to provide an ultimate hypothesis that would stand the test of time" (G.R. Smith to A. R. Kabat, *in litt.*, June 19, 2007). Not surprisingly, he also rejected the MacArthur and Wilson theory of island biogeography, since he believed that that theory ignored historical geology through its focus on immigration and extinction of species within isolated regions (*Ibid.*).

Taylor's second biogeographic paper in the mid-1980s was co-authored with Robert Bright, the University of Minnesota paleontologist who did much to reconstruct the stratigraphy of southern Idaho and northern Utah. This paper, "Drainage history of the Bonneville Basin" (Taylor & Bright, 1987), concluded that the flow of water between southern Idaho and northern Utah had changed directions several times from the Miocene to the Quaternary. This, when combined with habitat fragmentation, resulted in speciation. Taylor and Bright provided a remarkably detailed discussion of the changes in the species composition of these faunas, but rejected the attempts by ichthyologists to conclude that changes in river flow alone, and not habitat changes, caused changes in species distribution: "This explanation [of species distributions] is needed to emphasize the serious misuse of the concept in recent ichthyological literature (Minckley and others, 1986). Subjecting a biogeographic abstraction to palinspastic reconstructions as if it were a pre-Cambrian anorthosite is pure

'geopoetry.' The suggestions by those authors (p. 600) that the pattern might have been severed as long ago as 10 million years, or perhaps persisted after 4.5 million years, indicates complete lack of understanding of the concept and of the principles involved." (Taylor & Bright, 1987: 251)⁸.

"The most striking feature of his [Smith's] work is that the Bonneville Basin drained into Hudson Bay during the latest Miocene and Pliocene, as inferred from some of the modern fishes, and, strangely, gastropods. This unique and unprecedented conclusion has been criticized already (Taylor, 1985). The fundamental error is that the drainage connection responsible for faunal similarities (these are quite real) is simply assumed to be a through-flowing stream." (Taylor & Bright, 1987: 255).

It should be noted that the recipients of Taylor's criticisms were two ichthyologists with whom Taylor had formerly collaborated but had since fallen out with: Wendell Minckley of Arizona State University, who had worked with Taylor on the remarkable fauna of Cuatro Ciénegas, Mexico (Taylor & Minckley, 1966); and Gerald R. Smith of the University of Michigan, who co-authored a paper with Taylor on Pliocene mollusks and fishes (Taylor & Smith, 1981). Smith later explained this criticism: Taylor originally suggested this biogeographical connection to Smith, who incorporated it into a draft manuscript. However, when Taylor reviewed the manuscript, he harshly criticized his own suggestion (!), upon which Smith watered it down in the final, published version. Yet, it was the manuscript formulation, not the published version, which Taylor was to remember and criticize (G. R. Smith to A. R. Kabat, *in litt.*, June 20, 2007).

Finally, in 1988, at the invitation of Jane Gray, Taylor wrote a lengthy article, "Aspects of freshwater mollusc ecological biogeography" (Taylor, 1988b). The primary value of this paper lies in its summary of the geographic distributions of 42 families of freshwater and brackish-water mollusks. Taylor argued that species habitats and life history traits prima-

⁸A "palinspastic reconstruction" is a paleo-geographic map showing the distribution of organisms or geological features on the continents as they were arranged in earlier geological eras. Anorthosite is an igneous rock common in pre-Cambrian formations, including the San Gabriel Mountains near the Webb School and Taylor's hometown. When the distribution of anorthosite is mapped onto a pre-Cambrian map of North America, the result approximates a straight line, indicating that these anorthosite outcrops were caused by a common geologic event. Taylor's argument is that that while it may be suitable to map the distribution of rocks onto paleo-geographic maps, fossils were unsuitable for such mapping and analysis, as he believed that species expanded their ranges into suitable habitats, as opposed to geological events transporting species into new habitats.

rily determine the biogeographic distribution of each family, so that different families will have different distribution patterns. Thus, he once again rejected the attempts by other, unnamed malacologists (evidently including George Davis and Winston Ponder) to use geologic events to explain biogeographic distributions: "The conclusions drawn herein differ greatly from those in numbers of previous works. The differences are due to method. Interpretations that fit the data of distribution to such transient views as the derivation of the South American fauna from North America, or the rafting of a fauna on the Indian plate, are fundamentally unscientific. Such interpretations provide no test of anything except the will power of an individual author." (Taylor, 1988b: 513).

Taylor did note, in his acknowledgments, that Ponder had reviewed the manuscript: "Withering criticisms by Winston Ponder, of the Australian Museum, who disagrees in general and in particular with virtually everything in the paper, made me decide to discard it. Editor Jane Gray and Arthur Boucot extracted finally a revised paper from the reluctant author. The future will determine whether they merit censure or praise; but anyway they have my thanks." (Taylor, 1988b: 569).

Thus, Taylor's trilogy of papers from the 1980s on freshwater molluscan biogeography remain useful for their detailed compilations of data on the geographical distribution and fossil records of these mollusks, notwithstanding the limitations in their methodology. The 1985 paper is probably the most insightful, since it proposed a number of interesting biogeographical hypotheses, some of which have been adopted by other authors. It should be possible for other researchers to analyze his data, suitably updated, using other methodologies for reconstructing biogeographic distributions and phylogenetic relationships.

Taylor also participated in the study of a large collection of fossils obtained by Arthur Boucot and several other paleontologists from the Devonian of northwestern Saudi Arabia. Only one mollusk species was found, in high densities, in the zone between the Jauf and Jubah formations. He was able to determine that this was a nonmarine gastropod, referable to the Rissooidea "in the broad sense," but it could not be identified to family or species (Taylor in Boucot et al., 1989: 558). This discovery is of significance in extending the fossil record of this superfamily from the Permian, and repre-

sented "the earliest plausible freshwater snails," thus suggesting that the sister-taxa of both the Rissooidea and the suborder Discopoda necessarily had to be equally ancient (Taylor in Boucot et al., 1989: 558–559).

New Mexico Paper on the Hydrobiidae (1987)

While in Oregon, Taylor continued his research on the Hydrobiidae and other gastropods in artesian springs of New Mexico and Texas. When Taylor first published on the Hydrobiidae of northern Mexico in 1966, he essentially had that family to himself (as Joseph Morrison had mostly ceased publishing on hydrobiids), but within a few years, George Davis of the Academy of Natural Sciences of Philadelphia and Fred Thompson of the Florida Museum of Natural History began publishing on the anatomy and phylogeny of that family and others in the Rissooidea.

By the late 1970s, Robert Hershler, a graduate student of George Davis and Steven Stanley, began a major restudy of the anatomy and classification of the hydrobiids of Cuatro Ciénegas, as originally described by Taylor in 1966 from the shells. Hershler's thesis, which generously credited Taylor's work while recognizing the limitations of his collecting methods and the few taxonomic characters used, resulted in significant changes, including synonymizing some of Taylor's new taxa (Hershler, 1984, 1985). While Hershler was still in graduate school, at Johns Hopkins University, he wrote to Taylor in an attempt to learn whether he was still interested in this fauna, and to discuss his research. Taylor's lengthy response told Hershler, in no uncertain terms, that since Taylor was still studying this fauna, it was "fundamental and obligatory" that "there should be no overlap with [Taylor's] present active study by anyone else" and that he would only discuss possible thesis topics if Hershler chose to study snails or faunas that have "no one [else] studying them." (D. W. Taylor to R. Hershler, *in litt.*, Sept. 18, 1978). When Hershler instead continued his research on the Cuatro Ciénegas fauna, Taylor then tried to interfere with Hershler's graduate committee, upon which Stanley had to remind Taylor that any overlap in their research was scientifically appropriate, and requested, to no avail, that he should instead try to have "more comfortable interactions or even cooperation in the study of" this fauna. (S. M. Stanley to D. W. Taylor, *in litt.*, Apr. 4, 1979).

Taylor did not appreciate these new developments, and viewed Hershler as yet another “young Turk” who was to be ignored in the hopes that he would go away. However, Hershler was hired at the Smithsonian, where he began publishing an extensive series of papers on the anatomy and phylogeny of the Hydrobiidae, some co-authored with Davis, Thompson, and others.

Hershler, based on anatomical studies, determined that some of Taylor’s new species were either junior synonyms or assigned to the wrong genus, and that his subfamily classification was not justified. Although Hershler (as had Davis and Thompson) tried to keep Taylor informed of their new publications, and Hershler even named a new genus and two new species after him, Taylor refused to communicate with them.

Over the decades, Taylor accumulated numerous specimens of Hydrobiidae and other freshwater gastropods from artesian springs and lakes in Texas, New Mexico, Arizona, Nevada, and California. He realized that Hershler was actively collecting these same faunas, so did not want to get scooped, and hastily arranged to have a manuscript with numerous new genera and species, mostly from New Mexico, described in a paper (Taylor, 1987) published in the *Bulletin of the New Mexico Bureau of Mines & Mineral Resources*, a journal not known for articles about freshwater gastropods. Taylor deposited all the incipient types of his new species in the Los Angeles County Museum (LACM) and the University of Texas at El Paso, but refused to tell the curators at those institutions when his paper was published, and later refused to provide them with any reprints, claiming that he could not afford reprints (although this New Mexico agency sells reprints for only \$7.50). Notably, the bibliography of this paper did not cite any publications by Davis, Thompson, or Hershler, despite the direct relevance of their research.

As a result, it was not until the end of 1987 that Hershler and other malacologists found out about this research. Since Hershler already had a paper in press that described new species of Hydrobiidae from Arizona, he had to prepare a short addendum noting that three of the new species were junior synonyms of Taylor’s taxa; coincidentally, one was also a junior homonym (Hershler & Landye, 1988).

In early 1988, Taylor wrote to Clif Coney (1949–1993), then the collections manager at LACM, to complain about Hershler’s work:

“The person at the Smithsonian ... has taken or is in process of taking, the core of the monograph that I have been working on for the past 12 years. The species represented by the types I have sent to the museum are or will all be preempted, except for those in the New Mexico publication and perhaps a couple of *Physas* now in press in *Malacological Review*. The bulk of those types you may discard as you wish.”

“The study of snails was never anything I did for money, only for satisfaction and fun, and that motivation is all gone. Now my highest priority, the overriding concern, is to make sure that under no possible circumstances will any of the results of my years of collecting, study, sorting and picking, measuring, preserving, drawing, and paying for travel, supplies, typing, and illustration ever be of the slightest benefit or available in any way to that Philadelphia type of malacologist.”

“I won’t be corresponding on this or any other subject in the future, and request that you delete my name from your mailing list and that of the museum.” (D. W. Taylor to C. Coney, *in litt.*, Feb. 1, 1988).

Sometime in the early 1980s, Taylor had deposited, in the LACM, 59 lots of incipient type specimens of new species to be described, nearly all in the Hydrobiidae. The annotated list of these new species indicates that many were to be in new genera. Gale Sphon (1934–1995), then a curatorial assistant at LACM, assigned catalog numbers to these 59 lots. Since only 21 of those species were described in the 1987 paper, and two were described elsewhere, that left 36 incipient types remaining as manuscript names.

Although Taylor suggested in his 1988 letter that those latter specimens could be discarded, it is more likely that Coney arranged for their return to him, since they cannot now be found in the LACM. Unfortunately, there is no record in the LACM’s files as to the disposition of those specimens, and all the individuals involved (Coney, Sphon, and Taylor) are now deceased (L. Groves to A. R. Kabat, *pers. comm.*, Mar. 30, 2007).

Since Hershler’s work on the Hydrobiidae continued unabated, Taylor never forgave him for having taken over as the expert on the North American fauna. In April 1992, when Taylor came to the MCZ for a week to study the extensive Physidae collection that Clench had accumulated, Hershler learned of this upcoming visit and called Boss to see if he could also come to the MCZ that week, so that

he could finally meet Taylor. Boss, remembering what had happened three decades previously during Hubendick's visit to the USNM, then called to obtain his approval. He was upset that Hershler might get to see him, and promptly told Boss that "If Hershler comes, I'm not coming!" Boss, desiring to have Taylor's visit so that the MCZ's sizable collection of Physidae could be recurated, reluctantly had to tell Hershler that he could not visit at the same time. Hershler never met Taylor at any other time. Even so, when Taylor came, he refused to engage in discussions with any of us present; coincidentally, Kabat was also visiting that same week from the Smithsonian⁹. He later complained to the MCZ administration that the research grant provided to him was too small, another instance of the dog biting the hand that feeds it.

Monograph of Physidae (2003)

His last two decades, after he abandoned the Hydrobiidae, were focused on researching the monograph of the Physidae, a family of freshwater pulmonates, which was published in March 2003. He previously described several new species of in this family, and began a worldwide revision of this family, which had not been comprehensively analyzed in decades. Earlier authors, including Hubendick, tended to lump the species into only two or three genera. George Ang Te, the only other American who had studied the Physidae in the 1970s while a graduate student at Michigan (Te, 1975, 1980), earned Taylor's enmity for a misidentification, as he later wrote: "George Te, about whom I have a lot to say verbally but none of which should go on paper, was responsible for that misidentification." (D. W. Taylor to R. D. Turner, *in litt.*, June 25, 1983).

In 1991, Taylor made his first of what became nearly annual visits to Costa Rica, where he did extensive collecting, made good use of the resources at the Museo de Zoología de la Universidad de Costa Rica, San Jose, and the Instituto Nacional de Biodiversidad, Santo Domingo, Heredia (INBio), and helped the students with their malacological research (Barrientos & Springer, 2007: x–xi). Taylor's enthusiasm for the local molluscan fauna knew no bounds: in addition to publishing a prelimi-

nary checklist of the freshwater mollusks of Costa Rica (Taylor, 1994), he also intended to publish a guide to the freshwater molluscan genera of Costa Rica, a monograph on the mollusks of Colombia, and another monograph on the freshwater and brackish-water mollusks of Costa Rica, but these and other manuscripts remain unfinished (Barrientos & Springer, 2007: xi). Taylor evidently enjoyed his visits to Costa Rica, and his interactions with the local students, who fondly called him "Don Guillermo." Alas, on one trip, a suitcase containing numerous specimens of *Polymesoda* (Corbiculidae), carefully collected from around the country, was stolen, presumably by thieves who thought that a heavy suitcase must contain objects of great monetary value. Taylor was able to laugh about this in later years, notwithstanding the difficulty of trying to re-collect this material (*Ibid.*). During these trips, Taylor documented his travels and commented on his colleagues by writing notes on postcards which he mailed to his home, as a diary; these postcards are an interesting record of his views (*Ibid.*).

Taylor's research on the Physidae was long overdue, and his 2003 monograph (already out of print, although an online version is planned for 2008), included an invaluable catalogue of the over 400 names introduced in this family, and a summary of the known museum holdings of type specimens. His monograph was based on anatomical study of numerous species from around the world, including many previously only known from empty shells. He described 17 new species, bringing the total number of Recent species to about 80, and described 11 new genera and five new tribes to accommodate the morphological diversity in this family, which now encompassed 23 genera. Some of the new taxa inadvertently first appeared as nude names in the proceedings of a malacological conference in Ukraine (Taylor, 2002a), but these names are not available under Articles 13 and 16 of the *International Code of Zoological Nomenclature*. Roth (2003), in a perceptive review, commended Taylor for examining numerous specimens and his detailed anatomical studies.

However, two major limitations of this research, as Roth (2003) also noted, are that Taylor's anatomical characters were primarily or entirely limited to the "terminal male repro-

⁹Taylor also visited the MCZ in the summer of 1990 for a brief examination of the Physidae. The two authors of this paper were the only ones present in the Mollusk Department during that visit, and he vociferously berated one of us (Kabat) for not showing up in the morning one hour earlier than the arranged time for his visit.

ductive system" (i.e., the penial complex), and that the classification methodology was suspect since of the "12 binary penial complex characters ... only six of the 12 provide any information for grouping; the others are autapomorphic [unique] for only one of the 23 genera analyzed" (Roth, 2003: 365). Since the Physidae are hermaphroditic, Taylor could have obtained characters from the rest of the reproductive tract, or other organs and systems.

Moreover, his single, fully resolved phylogenetic tree was not constructed using concepts of parsimony. Roth (2003: 365), using cladistic analysis of Taylor's data, generated multiple, equally parsimonious but not fully resolved trees, indicating that Taylor's single fully resolved tree is misleading.

A third limitation of Taylor's research is that his attempts to integrate phylogeny with biogeography are suspect, due to his continued misinterpretations of Croizat's theories. Taylor concluded that because the most primitive species and genera are now found on the Pacific coast of Central America, this region had to be where the family originated and initially diversified (Taylor, 2003: 2, 18; 2004a: 279). As Roth (2003: 364) noted, this conclusion is questionable since it would require "a very long period of relative evolutionary stasis ... for those taxa Taylor regards as primitive," with evolutionary novelties instead (or only) occurring away from the centers of origin.

Despite these methodological limitations, his monograph of the Physidae is a commendable effort to obtain data on the geographic distribution and male reproductive anatomy of this family. Subsequently, several researchers have begun reanalyzing the phylogeny and systematics of the Physidae based on molecular techniques (Rogers & Wethington, 2007; Wethington & Lydeard, 2007).

Taylor's Mollusk Collections

The disposition of Taylor's extensive research collections of mollusks has not hitherto been documented in the literature.

First, in December 1984, he donated his collections of Unionidae (Bivalvia) and various brackish-water mollusks, particularly the genus *Cerithidea* (Potamididae), to the Los Angeles County Museum (LACM), partly because the then-collection manager, Clif Coney, was also interested in freshwater bivalves. As Taylor published little on those groups, that collection was probably of the least interest to him.

Second, the University of Minnesota, Bell Museum of Natural History, acquired the "Dwight W. Taylor Collection of Mollusks," comprising 5,000 to 10,000 dry lots, and an undetermined number of preserved specimens, primarily from the western U.S.A. Robert Bright, a professor at Minnesota and curator in the Bell Museum, was well known for his research on the fossil plants, pollen, and mollusks of southern Idaho and northern Utah (Davis, 1995). Bright made several field trips with Taylor, and they coauthored a paper (Taylor & Bright, 1987) on the Bonneville Basin. As a result, Bright was instrumental in having the Bell Museum acquire this collection. Yet, no effort was made to alert the malacological community to this important collection. It was not until after Taylor's death that one of us (Kabat) came across the obituary of Bright that mentioned, in passing, Bright's acquisition of this collection, identified as "one of the most significant in North America for western material" (Davis, 1995).

Third, Taylor's will arranged to have the remainder of his collection placed at the Museo de Zoologia, Universidad de Costa Rica (San Jose, Costa Rica). However, Yolanda Camacho-Garcia, the curator at that institution, arranged with the California Academy of Sciences (CAS) to have the North American specimens deposited in the CAS, with the University of Costa Rica receiving the neotropical specimens. The originals of Taylor's field notes were also divided between these two institutions, corresponding to the distribution of the specimens. However, the CAS also received a photocopy of his field notes for the neotropical collections. The CAS notes are archived as "DW Taylor Colln, Acq # 548, SLF T-13, Station Data." Wendell P. Woodring, who also gave his extensive book and reprint library to the University of Costa Rica in the early 1980s, may have inspired Taylor's gift to that institution. Taylor retained type material of some of his new species in his personal collection; if not subsequently deposited in museum collections, these specimens should now be with the material deposited in the CAS in 2006.

Last Years

After completing the Physidae book in 2003, Taylor only published one further paper, a short synopsis of that book for a malacological serial in Uruguay (Taylor, 2004a), and submitted an abstract for a malacological meeting in Vladivostok that he was unable to attend (Tay-

lor, 2004b). His physical health deteriorated, forcing him to cease his research. Despite the financially disastrous divorce, Taylor must have achieved some financial stability in later years. Some measure of his finances is documented by his contributions to candidates for U.S. President and Congress, as recorded on the website of the Federal Election Commission, which identifies a total of \$44,228 in donations from 2002 through 2006 (under federal law, individuals are limited in donations that can be made to any one candidate). With one exception, all of his donations were made to Democrats or Independents. What is surprising in light of Taylor's prior personal relationships, is that more than half of his donations (\$27,153) were made to 22 female candidates, such as senators Hillary Clinton (New York) and Barbara Boxer (California), with his smaller donations to six male candidates, including John Kerry and Howard Dean (unsuccessful Presidential candidates), and most of the rest to liberal political action committees¹⁰.

Afterword

On August 3, 2006, Dwight Taylor died from cancer, at the Wayne Morse Ranch House, Eugene, Oregon. He is survived by two sisters, Sarah Taylor Stephenson of Greenwich, Connecticut, and Margaret (Maggie) Taylor Cunningham, an Episcopalian priest in Bryn Mawr, Pennsylvania. Dwight also had four nieces and two nephews, some of whom he never met. Several days before he died, he made a major donation to the Alf Museum. His will left the balance in his bank account to the Alf Museum, and arranged to have his Oregon house sold, with the proceeds going to the Webb School.

On March 30, 2007, a memorial service was held at the Vivian Webb Chapel of the Webb School, followed by a lunch and informal remarks in the Alf Museum, in front of the photo showing the Webb School's three finalists in the Westinghouse competition (Fig. 6). The religious service was conducted by Dwight's sister, Reverend Cunningham, who candidly admitted that he was not religious, so the ser-

vice reflected his environmental concerns, including a recitation of the "Earth's Ten Commandments" by Ernest Callenbeck and a homily from "A Sacred Place to Dwell: Living With Reverence Upon the Earth" by Henryk Skolimowski (Anonymous, 2007).

After the lunch, Dwight's sister Maggie led the remarks, noting with grief and profound regret that he had become estranged from his family. Malcolm McKenna then spoke, and the years rolled away as he recalled numerous joint collecting trips and their shared enthusiasm for the biogeography of mollusks and mammals. McKenna noted that they made good use of the collection and library of John Q. Burch. McKenna noted, with regret, that Dwight broke off contact with him and other paleontologists by the late 1960s. McKenna then called on one of us (Kabat) to discuss Dwight's malacological accomplishments and relationships. Don Lofgren, the Director of the Alf Museum, and Susan Nelson, the head of the Webb School, recounted Dwight's visits to the Webb School and the Alf Museum, including his interests in conservation issues on the campus, and in the current activities at the Museum.

Two of Dwight's classmates, Guilford Babcock and Pete Akin, shared their friendly reminiscences of Dwight. Professor Babcock discussed how he and his wife enjoyed several visits to Dwight in the past few years, and even though they did not agree on political issues, they had respectful discussions. Akin recalled a post-graduation trip that Dwight, two other classmates, and he took on old Highway 99 throughout California, north to Crater Lake, and back south on the coastal Highway 1 to Newport Beach. Following these remarks, and a tour of the Alf Museum, Dwight's ashes were scattered in a ravine on the north end of campus, where, in 1999, Alf's ashes were also scattered.

In conclusion, Dwight Taylor was a malacologist and paleontologist who achieved numerous significant accomplishments in the taxonomy and biogeography of freshwater mollusks. Unfortunately, his inability to take criticism of his work, or to work with others, has impaired his professional reputation.

¹⁰Even stranger is his donation in 2003 to Lyndon H. LaRouche, a perennial fringe candidate for President. LaRouche was convicted in 1988 for conspiracy to commit mail fraud, and conspiracy to defraud the Internal Revenue Service (IRS), based on illegal fundraising during his 1980 and 1984 presidential campaigns, and served over a decade in federal prison. *United States v. LaRouche*, 896 F.2d 815 (4th Cir. 1990). LaRouche resumed his campaigns upon his release from prison, with even less success. Taylor's donation to LaRouche is difficult to reconcile with his other donations, but may reflect his maverick approach to life.

ACKNOWLEDGMENTS

We thank the following individuals who kindly shared their reminiscences of Dwight Taylor: Pete Akin, Guilford Babcock, Kenneth J. Boss, John B. Burch, Margaret Taylor Cunningham, George M. Davis, J. Thomas Dutro, Jr., William K. Emerson, Jerry Landye, Don Lofgren, Harold Malde, James H. McLean, Susan Nelson, Richard E. Petit, Barry Roth, and Gerald R. Smith. Kraig K. Adler provided information on Claude Hibbard as a mentor and teacher at Michigan. Robert Hershler provided invaluable insights into Taylor’s research, and allowed us to examine his copies of Taylor’s reports to government agencies, many of which John and Mary Lou Pojeta had obtained from the archives of the U.S. Geological Survey.

John B. Burch, George M. Davis, Robert Hershler, James H. McLean, John Pojeta, Richard E. Petit, Gerald R. Smith, and an anonymous reviewer provided helpful comments on earlier drafts of this paper. Vitalij Anistratenko provided information on the malacological conference in Ukraine in 2002, and on Taylor’s second visit to Ukraine in 2004. Konstantin A. Lutaenko provided information about the malacological conference in Vladivostok in 2004.

Warren Blow (USNM), Lindsey Groves (LACM), Jann Thompson (USNM), and Paul Valentich-Scott (SBMNH) allowed Kabat to examine the Taylor type specimens in their collections, and provided further information on the curation of those specimens. Jean F. DeMouthe (CAS) and Yolanda Camacho-Garcia (UCR), through Eugene V. Coan, provided information on Taylor’s type specimens in their collections. John Burch, Don Lofgren, Gerald R. Smith, and Paul Valentich-Scott provided electronic versions of most of the photographs of Taylor reproduced herein. Carla Dietrich expertly prepared these figures for publication.

CATALOG OF TAYLOR’S NEW TAXA

Acronyms and Abbreviations

ANSP	Academy of Natural Sciences of Philadelphia, Philadelphia, Pennsylvania
BMNH	The Natural History Museum, London, United Kingdom [formerly British Museum (Natural History)]
CAS	California Academy of Sciences, San Francisco, California

FLMNH	Florida Museum of Natural History, Gainesville, Florida
INBio	Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica [mollusk collection now in the UCR, and curated as “MZUCR-INB”]
LACM	Los Angeles County Museum of Natural History, Los Angeles, California
LACMIP	Los Angeles County Museum of Natural History, Invertebrate Paleontology, Los Angeles, California
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts
MZUCR	Museo de Zoología, Universidad de Costra Rica, San José, Costa Rica [cited by Taylor as “UCR”]
MZUCR-INB	Museo de Zoología, Universidad de Costa Rica, San José, Costa Rica, collections formerly housed in the Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica [cited by Taylor as “INBio”]
SDSNH	San Diego Society of Natural History, San Diego, California
UC	University of Colorado Museum, Boulder, Colorado
UCMP	University of California Museum of Paleontology, Berkeley, California
UCR	Museo de Zoología, Universidad de Costa Rica, San José, Costa Rica [collections now curated at “MZUCR”]
UMMZ	Museum of Zoology, University of Michigan, Ann Arbor, Michigan
USNM	National Museum of Natural History, Smithsonian Institution, Washington, D.C. [formerly U.S. National Museum]
UTEP	University of Texas at El Paso, El Paso, Texas
ZIBM-CMNO	Departamento de Zoología, Instituto de Biología, Universidad Nacional Autónoma de México, Mexico City, Mexico
Co.	County

Unless otherwise indicated, the type locality of new species is in the United States of America. Type specimens indicated as “USNM” are in the Recent Mollusk collection, except for fossil species, which are housed in the Invertebrate Paleontology collection. Although the types of Taylor’s 1987 New Mexico publication were deposited solely in LACM and UTEP, Artie Metcalf, curator of mollusks at

UTEP, arranged in 1990 to have some paratypes shared with the USNM, ANSP, and FLMNH. Taylor's types at Stanford University were transferred to the California Academy of Sciences in 1977 (Smith, 1978: 1).

As a paleontologist, Taylor routinely provided detailed information on the type localities for new species, including the township and sections for those species from the United States. He explained this system as follows: "Land in the United States is commonly divided into 'townships,' each 6 miles square, that are numbered according to tier (T.) and range (R.) from standard base lines and meridians. A township is divided into 36 'sections,' each section (sec.) 1 mile square." (Gregg & Taylor, 1965: 109). This information allows for precise determination of the type localities with reference to the U.S. Geological Survey topographical maps of the United States.

Taylor described 132 new taxa (including two replacement names for junior homonyms), of which 54 (40.9%) were in the Hydrobiidae *sensu lato*, 39 (29.5%) in the Physidae, 36 (27.3%) in other gastropod families (primarily Lymnaeidae, Planorbidae, Pleuroceridae, and Pupillidae), and 3 (2.3%) in the Bivalvia. These 132 new taxa encompassed 12 family-level taxa (including 6 in the Hydrobiidae *sensu lato* and 5 in the Physidae), 31 genus-level taxa (including 12 in the Hydrobiidae *sensu lato* and 11 in the Physidae), and 89 species (including 35 in the Hydrobiidae *sensu lato* and 24 in the Physidae). Some authors have recently proposed that the Hydrobiidae be divided into several families, e.g., Amnicolidae, Cochliopidae (Wilke et al., 2001); however, since most of Taylor's taxa have not been analyzed with respect to these families, we have used Hydrobiidae *sensu lato* for convenience.

In 1988, Taylor described two new species of Physidae – *Physa megalochlamys* from Wyoming, and *P. natricina* from the Snake River, Idaho. The original description (Taylor 1988) specified that the holotypes were deposited in LACM, i.e., LACM 2255 and LACM 2256, respectively, the numbers assigned by Gale Sphon when Taylor deposited the incipient types. Since LACM 2256 had been inadvertently used for the type specimen of another author's new species, the holotype of *P. natricina* was recatalogued as LACM 2970 in 2003. However, the type specimen of *P. megalochlamys* cannot now be found in the LACM, and it may have been returned to Taylor with the remaining, undescribed incipient

types (L. Groves to A. R. Kabat, *pers. comm.*, Mar. 30, 2007). Taylor (2003: 164) later wrote that the holotype of *P. megalochlamys* was CAS 114779, which may be the specimen removed from the LACM and subsequently deposited in the CAS.

Taylor described five new tribes, 11 new genera, and 17 new species of Physidae in his 2003 monograph. He submitted a short paper for the proceedings volume of a malacological meeting held on May 13–15, 2002, in Ukraine, which used many of these new names, without formal description (Taylor, 2002a). ICZN Article 16.1 requires that "every new name published after 1999 ... must be explicitly indicated as intentionally new," but Taylor's 2002 paper does not specify which of the names are new, so they remained nude names until the publication of his 2003 monograph. Some of the names in the 2002 publication also do not satisfy several other provisions of the ICZN, including Article 13.1 (which requires a description for each new taxon); Article 13.3 (which requires a type species for each new genus); and Article 16.4 (which requires type specimen(s) for each new species).

adamantina, *Tryonia* (*Paupertryonia*) – Taylor, 1987: 41–42, fig. 20. Type locality: Diamond Y Spring, Pecos Co., Texas. Holotype LACM 2089; paratypes UTEP 10060; ANSP 376031; FLMNH 160949; USNM 854075. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (2001: 16–17) redescribed this taxon and transferred it to *Pseudotryonia* Hershler, 2001.

alamosae, *Tryonia* (*Paupertryonia*) – Taylor, 1987: 42–44, fig. 21. Type locality: Ojo Caliente, 700 ft W, 1,700 ft S, sec. 31, T. 8S R. 7W, Socorro Co., New Mexico. Holotype LACM 2188; paratypes UTEP 10061; USNM 854701, 854702. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (2001: 15–18) redescribed this taxon, which he made the type species of *Pseudotryonia* Hershler, 2001.

albiconica, *Limnaea* (*Stagnicola*) – Taylor, 1957b: 657–659, figs. 1–3. Type locality: White Cone Peak, sec. 12, T. 25N, R. 21E, 1.5 mi S of White Cone Trading Post, Navajo Co., Arizona. White Cone local fauna, Hemphillian Age, Bidahochi Formation, Middle Paleocene. Holotype USNM 562081; paratypes USNM 562082. Gastropoda: Pulmonata: Lymnaeidae.

alfi, *Helminthoglypta* – Taylor, 1954c: 76–77, pl. 20, figs. 30–32. Type locality: Barstow Hills, 7 mi N of Barstow, San Bernadino Co., California (“a series of three outcrops of a stratum of whitish volcanic ash lying in a straight line in the NW corner of Rainbow Basin”). Barstow Formation, Upper Miocene. Holotype: CAS 70413 (ex Stanford Univ. Paleontological Type Collection 8075); paratypes CAS 70414 (ex Stanford Univ. 8076); SBMNH 35323 (ex S. S. Berry collection 15373); SBMNH 119935 (ex S. S. Berry collection 19935); LACMIP 4922, 4923 (ex W. O. Gregg collection 5925); D. W. Taylor collection 1107, 1108, 1417, 1439, 3137, and 3138; and USNM 561450. Gastropoda: Pulmonata: Helminthoglyptidae.

Amecanauta Taylor, 2003: 72. Type species *Amecanauta jaliscoensis* Taylor, 2003; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.

Amecanautini Taylor, 2003: 72. Tribe in the subfamily Aplexinae, for *Amecanauta* Taylor, 2003, *Mexinauta* Taylor, 2003, *Mayabina* Taylor, 2003, *Tropinauta* Taylor, 2003, and a “name uncertain group” in the subfamily Aplexinae. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.

Apachecoccus Taylor, 1987: 32. Type species *Apachecoccus arizonae* Taylor, 1987; original designation. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 5, 13) concluded that this taxon was a junior synonym of *Pyrgulopsis* Call & Pilsbry, 1886.

“Aplexini” Taylor, 2003: 49. Tribe in the subfamily Aplexinae, for *Amuraplexa* Starobogatov et al., 1989, *Paraplexa* Starobogatov, 1989, *Aplexa* Fleming, 1820, and *Sibirenauta* Starobogatov & Streletskaia, 1967. Gastropoda: Pulmonata: Physidae. Notes: Starobogatov (1967: 289) had already established Aplexinae as a subfamily, so Taylor is not to be credited as the author of this tribe, pursuant to ICZN Article 36.1 (“A name established for a taxon at any rank in the family group is deemed to have been simultaneously established for nominal taxa at all other ranks in the family group ... The name has the same authorship and date at every rank.”).

Archiphysa Taylor, 2003: 177–178. Type species *Physa lordi* Baird, 1863; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum* (as “Archiphyse” [sic]).

arizonae, *Apachecoccus* – Taylor, 1987: 32–34, fig. 15. Type locality: unnamed spring on N side of Gila River, about 2 mi N of Bylas, in T. 3S, R. 22E, 25,000 ft W and 15,500 ft N of township line, Graham Co., Arizona. Holotype LACM 2203; paratypes UTEP 10050; ANSP 376020; FLMNH 160939; USNM 854090. Gastropoda: Prosobranchia: Hydrobiidae. Notes: *Pyrgulopsis sancarlosensis* Hershler in Hershler & Landye, 1988: 35–41, is a junior subjective synonym of *Apachecoccus arizonae* Taylor, 1987 (*fide* Hershler & Landye, 1988: 58). Hershler (1994: 18) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.

ashmuni, *Archiphysa* – Taylor, 2003: 178–180, pl. 10, figs. 1–3, map fig. 176. Type locality: Ojo de Gallo, 1,650 ft N, 4,150 ft E, sec. 3, T. 10N, R. 10W (35°07'20"N, 107°52'32"W), Cibola Co., New Mexico. Holotype CAS 146087; paratypes CAS 146088; BMNH 2001307. Gastropoda: Pulmonata: Physidae.

Austrinauta Taylor, 2003: 43–45. Type species *Physa elata* Gould, 1853; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.

Austrinautini Taylor, 2003: 43. Tribe in the subfamily Aplexinae, for *Austrinauta* Taylor, 2003 and *Caribnauta* Taylor, 2003. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.

bernardinus, *Yaquicoccus* – Taylor, 1987: 34–35, fig. 16. Type locality: spring, 2,300 ft E, 4,600 ft S of NW corner, section 15, T. 24S, R. 30E, Cochise Co., Arizona. Holotype LACM 2186; paratypes UTEP 10066; ANSP 376019; FLMNH 160942, 160934; USNM 854078, 854088. Gastropoda: Prosobranchia: Hydrobiidae. Notes: *Pyrgulopsis cochisi* Hershler in Hershler & Landye, 1988: 41, is a junior subjective synonym of *Yaquicoccus bernardinus* Taylor, 1987 (*fide* Hershler & Landye 1988: 58). Hershler (1994: 21) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.

blakeana, *Pyrgulopsis* – Taylor, 1950: 30–31, figs. 4–6. Type locality: shore of Salton Sea, by Fish Springs, Imperial Co., California. Quaternary. Holotype: SBMNH 35500 (ex S. S. Berry collection 13251); paratypes SBMNH 35501 (ex S. S. Berry collection 13253); SBMNH 35502 (ex S. S. Berry collection 13259); SBMNH 35322 (ex S. S. Berry collection 13253); USNM 613966. Other paratypes “promised” to the collections

- of W. O. Gregg, SDSNH, Stanford University, and UMMZ. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Taylor (1966c: 196) subsequently concluded that this was a junior synonym of *Tryonia protea* (Gould, 1855).
- brunei*, *Tryonia* (*Paupertryonia*) – Taylor, 1987: 44–45, fig. 22. Type locality: outflow of Phantom Lake Spring, Joe Kingston Ranch, Jeff Davis Co., Texas. Holotype LACM 2251; paratypes UTEP 10062; USNM 854631, 854632. Gastropoda: Prosobranchia: Hydrobiidae.
- cahuillarum*, *Pyrgulopsis* – Taylor, 1950: 31–32, fig. 7. Type locality: Lake Cahuilla, 50 yards NE of the so-called Fish Traps, 7.9 mi W of Mecca, 33°34'17"N, 116°13'13"W, Riverside Co., California. Late Pleistocene? Holotype: SBMNH 35503 (ex S. S. Berry collection 13257). Gastropoda: Prosobranchia: Hydrobiidae. Notes: Taylor (1966c: 196) subsequently concluded that this was a junior synonym of *Tryonia protea* (Gould, 1855).
- Calibasis* Taylor, 1966b: 41. Described as a subgenus of *Juga* H. Adams & A. Adams, 1854. Type species *Juga acutifilosa* (Stearns, 1890); original designation. Gastropoda: Prosobranchia: Pleuroceridae.
- californica*, *Batillaria* – Taylor, 1983: 290, fig. 1. Type locality: USGS locality M3091, 5,600 ft W, 2,800 ft N, in irregular sec. 20, T. 10S, R. 21E, Imperial Co., California. Bouse Formation, Upper Miocene - Pliocene. Holotype USNM 305208; paratypes USNM 305209–305211. Gastropoda: Prosobranchia: Potamididae.
- californiensis*, *Fontelicella* (*Fontelicella*) – Gregg & Taylor, 1965: 109. Type locality, Campo Creek, 0.6 mi E of Mountain Empire Dam, W 1/2 SW 1/4 sec. 19, T. 18S, R. 5E, San Diego Co., California. Holotype, UMMZ 220000 (only specimen). Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 25) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.
- caramba*, *Paludiscala* – Taylor, 1966c: 207–208, pl. 13, figs. 11, 14, 16, text-figs. 23–25. Type locality: Spring tributary to the area of marshes and lagunas named “El Mojarral,” 1.7 km due E of the northern tip of Sierra de San Marcos, 11 km SW of Cuatro Ciénegas, Coahuila, Mexico. Holotype, UMMZ 220164. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 60–64) redescribed this taxon.
- Caribnauta* Taylor, 2003: 47–48. Type species *Caribnauta harryi* Taylor, 2003; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.
- carinifex*, *Menetus* – Taylor in Taylor & Smith, 1981: 366–367, pls. 11–12. Type locality: Mopung Hills, in coquina and limestone beds, between Southern Pacific Railroad tracks and the Fallon-Lovelock Road, mostly in the NW 1/4 sec. 7, T. 23N, R. 29E, Churchill Co., Nevada. Pliocene. Holotype UMMZ 250115. Gastropoda: Pulmonata: Planorbidae.
- carranzae*, *Mexipyrgus* – Taylor, 1966c: 190, pl. 15, figs. 27–32, text-fig. 16. Type locality: Laguna Tío Candido, 14 km S of Cuatro Ciénegas, Coahuila, Mexico. Holotype UMMZ 220211. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 87) initially treated this species as a junior synonym of *Mexipyrgus churinceanus* Taylor, 1966, but as *M. carranzae* was the type species of *Mexipyrgus* Taylor, 1966, Hershler & Thompson (1982: 78) restored *M. carranzae* as a valid species, with *M. churinceanus* and four other species as junior synonyms.
- chauliodonta*, *Gastrocopta* (*Gastrocopta*) – Taylor, 1954d: 12. Type locality: Center of S side of NW 1/4 section 25, T. 31N, R. 22W, Brown Co., Nebraska. Sand Draw fauna, late Nebraskan age, Pleistocene. Holotype UMMZ 181120; paratypes UMMZ 181121. Gastropoda: Pulmonata: Pupillidae.
- Chiapaphysa* Taylor, 2003: 167. Type species *Chiapaphysa grijalvae* Taylor, 2003; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum* (as “Chipaphysa” [sic]).
- chippevarum*, *Laurentiphysa* – Taylor, 2003: 154–157, figs. 148–152, pl. 8, fig. 1, map fig. 147. Type locality: Ditch on N side of Highway 77, 1.85 mi W of Highway 13, SW 1/4 SE 1/4 sec. 31, T. 43N, R. 2W, elevation 1,530 ft, Ashland Co., Wisconsin. Holotype CAS 146089; paratypes CAS 146090; BMNH 20001309. Gastropoda: Pulmonata: Physidae.
- chrysopylica*, *Juga* – Taylor, 1966b: 39. For “*Goniobasis rodeoensis*” *sensu* Hanna (1923: 34–35, pl. 1, fig. 3), *non* B. L. Clark (1915: 491–492, pl. 69, figs. 1, 10, as *Cerithium rodeoensis*). Sonoma Co., California. Petaluma Formation, Pliocene. Gastropoda: Prosobranchia: Pleuroceridae.

- Notes: The syntypic type material would be Hanna's figured specimens, CAS 70423–70428.
- chupaderae*, *Fontelicella* – Taylor, 1987: 24–26, fig. 11. Type locality Willow Spring, on Cienaga Ranch at S end of Chupadera Mountains, about 5 mi W of Bosque del Apache National Wildlife Refuge headquarters, Socorro Co., New Mexico. Holotype LACM 2218; paratypes UTEP 10052; ANSP 376027; FLMNH 160938; USNM 854081. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 30) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.
- churinceanus*, *Mexipyrgus* – Taylor, 1966c: 190–201, pl. 16, figs. 33–39, pl. 17, figs. 40, 41. Type locality: Laguna Churince, 16 km SW of Cuatro Ciénegas, Coahuila, Mexico. Holotype UMMZ 220150. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 87–104) and Hershler & Thompson (1992: 78) concluded that this species was a junior synonym of *Mexipyrgus carranzae* Taylor, 1966.
- Clenchiellini Taylor, 1966c: 175, 181. New tribe within the Cochliopinae for *Clenchiella* Abbott, 1948. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Subsequently elevated to a subfamily by Starobogatov (1970: 34), and then to a full family by Loganzen & Starobogatov (1982: 1114). Ponder & Bouchet (2005: 252) listed this as a subfamily of the Hydrobiidae *sensu stricto*.
- coahuilae*, *Durangonella* – Taylor, 1966c: 184–186, pl. 14, figs. 19, 22. Type locality: Laguna Grande, in the middle of the E side, within about 30 m of the mouth of Rio Churince and about 17 km SW of Cuatro Ciénegas, Coahuila, Mexico. Holotype UMMZ 220159. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler et al. (2002: 172–182) concluded that *Durangonella* Morrison, 1945, was a junior synonym of *Tryonia* Stimpson, 1865, and described *Juturnia* as a new genus for this species (as the type species) and two other species.
- Coahuilix* Taylor, 1966c: 180. Type species *Coahuilix hubbsi* Taylor, 1966; original designation. Taylor classified this in the tribe Horatiini, subfamily Cochliopinae. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 53–54) redescribed this taxon.
- “Cochliopinae” Taylor, 1966c: 173. Although Taylor listed this as a new subfamily, this taxon was already established by Tryon (1866) as a subfamily in the Amnicolidae [Hydrobiidae].
- “Cochliopini” Taylor, 1966c: 173. Although Taylor listed this as a new tribe, this taxon was first established by Tryon (1866) as a subfamily in the Amnicolidae [Hydrobiidae], so Taylor is not to be credited as the author of this tribe, pursuant to ICZN Article 36.1 (“A name established for a taxon at any rank in the family group is deemed to have been simultaneously established for nominal taxa at all other ranks in the family group ... The name has the same authorship and date at every rank.”).
- conchos*, *Disconaias* – Taylor, 1997b: 420–423, pl. 21, fig. 1. Type locality: Rio Conchos, about 0.5 km W of Julimes, Chihuahua, Mexico. Holotype LACM 2257; paratype MCZ 316166. Bivalvia: Unionidae.
- Craterarion* Taylor, 1954c: 75. Type species *Craterarion pachyostrakon* Taylor, 1954; original designation. Upper Miocene. Gastropoda: Pulmonata: Arionidae.
- davisi*, *Fontelicella* – Taylor, 1987: 10–12, fig. 4. Type locality: tributary of Limpia Creek, about 5 mi NE of Fort Davis, Jeff Davis Co., Texas. Holotype LACM 2211; paratypes UTEP 10053; ANSP 376023; FLMNH 160944; USNM 854085. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 32) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.
- dineana*, *Limnaea* (*Pseudosuccinea*) – Taylor, 1957b: 659–660, figs. 4–6. Type locality: White Cone Peak, sec. 12, T. 25N, R. 21E, 1.5 mi S of White Cone Trading Post, Navajo Co., Arizona. White Cone local fauna, Bidahochi Formation, Hemphillian Age, Middle Pliocene. Holotype USNM 562084; paratypes USNM 562086. Gastropoda: Pulmonata: Lymnaeidae. Notes: Taylor in Taylor & Smith (1981: 363) transferred this species to *Lutrilimnea*.
- escobedae*, *Mexipyrgus* – Taylor, 1966c: 191–192, pl. 14, figs. 23–26. Type locality: Laguna Escobeda, 12 km S of Cuatro Ciénegas, Coahuila, Mexico. Holotype UMMZ 220202. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 87–104) and Hershler & Thompson (1992: 78) concluded that this species was a junior synonym of *Mexipyrgus carranzae* Taylor, 1966.
- Fontelicella* Gregg & Taylor, 1965: 103–108. Type species *Fontelicella californiensis* Gregg & Taylor, 1965; original designation.

- Gastropoda: Prosobranchia: Hydrobiidae. Notes: Thompson (1979: 47) classified *Fontelicella* in the Nymphophilinae; subsequently, Hershler & Thompson (1987: 28) and Hershler (1994: 5–11) concluded that *Fontelicella* was a junior synonym of *Pyrgulopsis* Call & Pilsbry, 1886.
- Fontigentinae Taylor, 1966c: 182. New subfamily for *Fontigens* Pilsbry 1933. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler et al. (1990) synonymized Fontigentinae with Emmericiinae Brusina, 1870, which is where Morrison (1949) had previously classified *Fontigens*. Ponder & Bouchet (2005: 251) classified the Emmericiinae in the family Amnicolidae.
- franzeneae*, *Gastrocopta* – Taylor, 1960b: 67–69, pl. 1, fig. 29. Type locality: Rexroad Ranch, University of Kansas Meade Co. loc. 3, USGS Cenozoic loc. 21171, W 1/2 SW 1/4 sec. 22, T. 33S, R. 29W, Kansas. Upper Pliocene. Holotype UMMZ 183033-a. Gastropoda: Pulmonata: Pupillidae.
- gentilis*, *Lutrilimnea* – Taylor in Taylor & Smith, 1981: 363–364, pl. 8. Type locality: SE 1/4 SW 1/4 sec. 12, T. 11S, R. 40E, Lake Thatcher, Caribou Co., Idaho. Main Canyon Formation, Pleistocene. Holotype UMMZ 250110. Gastropoda: Pulmonata: Lymnaeidae.
- gilae*, *Fontelicella* – Taylor, 1987: 16–18, fig. 7. Type locality: springs on N side of East Fork of Gila River, center of sec. 3, T. 13S, R. 13W, Grant Co., New Mexico. Holotype LACM 2214; paratypes UTEP 10054; ANSP 376025; FLMNH 160936; USNM 854087. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 36) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.
- gilae*, *Tryonia* – Taylor, 1987: 36–37, fig. 17. Type locality: unnamed spring on N side of Gila River, about 2 mi N of Bylas, in T. 3S, R. 22E, 25,000 ft W and 15,000 ft N of the township line, Graham Co., Arizona. Holotype LACM 2187; paratypes UTEP 10063; ANSP 376029; FLMNH 160943, 160948; USNM 854074, 854089. Gastropoda: Prosobranchia: Hydrobiidae. Notes: *Tryonia gilae* Hershler in Hershler & Landye, 1988: 43–49 is a junior subjective synonym and junior primary homonym of *Tryonia gilae* Taylor, 1987 (*fide* Hershler & Landye 1988: 58). Hershler (2001: 9–10) redescribed this species.
- grijalvae*, *Chiapaphysa* – Taylor, 2003: 168–170, figs. 166, 167, pl. 8, fig. 7, map fig. 165. Type locality: Río Suchiapa, 2 km SE of Suchiapa, 16°36.4'N, 93°5.0'W, Chiapas, Mexico. Holotype CAS 114818; paratypes CAS 114787; BMNH 20001308; MCZ 302595; ZIBM CNMO 1161. Gastropoda: Pulmonata: Physidae.
- harpa*, *Physa* (*Costatella*) – Taylor in Taylor & Smith, 1981: 368–370, pl. 16. Type locality USGS loc. 20093, SE 1/4 sec. 16, T. 13N, R. 2W, Box Elder Co., Utah. Cache Valley Formation, Pliocene. Holotype USNM 305783; paratypes USNM 781782, 781783. Gastropoda: Pulmonata: Physidae.
- harryi*, *Caribnauta* – Taylor, 2003: 48–49, fig. 20, pl. 1, fig. 2, map fig. 5. Type locality: stream W of Las Piedras, Puerto Rico. For “*Physa marmorata*” *sensu* Harry & Hubendick, 1964, *non* Guilding, 1828. Gastropoda: Pulmonata: Physidae. Notes: Taylor wrote that the holotype was the “shell figured by Harry & Hubendick (1964, fig. 72),” and that “I wrote to the [Göteborg] Museum for information. No reply was received.” Taylor also wrote that: “Paratypes might be in the Houston Museum of Natural Science, Houston, Texas, where Harry’s collection is deposited. I wrote to the museum asking for loan of the relevant specimens, but received the reply that other duties prevented the curator from aiding me.”
- Haitini Taylor, 2003: 128. New tribe in subfamily Physinae, for *Haitia* Clench & Aguayo, 1932. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.
- hemphilli*, *Physella* – Taylor, 2003: 191, pl. 9, fig. 5, map fig. 8. Type locality: Lake Coeur d’Alene, Kootenai Co., Idaho. Holotype CAS 116331; paratypes CAS 114824, CAS 114825. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.
- Horatiini Taylor, 1966c: 179–180. New tribe in subfamily Cochliopinae, for *Horatia* Bourguignat, 1887, and eleven other genera: *Coahuilix*, *Gocea*, *Hadziella*, *Daudebardiaella*, *Hauffenia*, *Neohoratia*, *Lyhnidia*, *Ohridohoratia*, *Ohrigocea*, and *Karevia*. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler & Thompson (1992: 129) rejected Taylor’s combination of genera from southeastern Europe and northern Mexico into a single tribe. Ponder & Bouchet (2005: 252) listed Horatiini as a junior synonym of Belgrandiinae de Stefani, 1877, in the Hydrobiidae *sensu stricto*; Wilke et al. (2001: 21) listed Horatiinae as a valid subfamily in the Hydrobiidae *sensu stricto*.

- hubbsi*, *Coahuilix* – Taylor, 1966c: 180–181, figs. 8–13. Type locality: from a bottom sample of the northernmost pool of Pozos de la Becerra, 14 km SW of Cuatro Ciénegas, Coahuila, Mexico. Holotype UMMZ 220180. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 54–57) re-described this species.
- humboldtina*, *Physa* (*Costatella*) – Taylor in Taylor & Smith, 1981: 367–368, pls. 13–14. Type locality: Mopung Hills, in coquina and limestone beds, between Southern Pacific Railroad tracks and the Fallon-Lovelock Road, mostly in the NW 1/4 sec. 7, T. 23N, R. 29E, Churchill Co., Nevada. Pliocene. Holotype UMMZ 250118. Gastropoda: Pulmonata: Physidae.
- Idabasis* Taylor, 1966b: 41. Described as a subgenus of *Juga* H. Adams & A. Adams, 1854. Type species *Juga chrysopylica* Taylor, 1966; original designation. Pliocene. Gastropoda: Prosobranchia: Pleuroceridae.
- idahoensis*, *Valvata* – Taylor in Taylor & Smith, 1981: 358. Replacement name for *Valvata multicarinata* Yen, 1946 (pp. 487–488, pl. 76, fig. 1), *non* Hislop, 1860 (pp. 170–171, pl. 5, fig. 15a, b). Bear Lake Co., Idaho. Salt Lake Group, Pliocene. Holotype USNM 559943; paratype USNM 559944. Gastropoda: Heterobranchia: Valvatidae.
- imminens*, *Pyrgulopsis* – Taylor, 1950: 28, figs. 1–3. Type locality: shore of Salton Sea, by Fish Springs, Imperial Co., California. Holotype SBMNH 35497 (ex S. S. Berry coll. 13255); paratypes SBMNH 35498 and 35499 (ex S. S. Berry coll. 13252 and 13258); SDSNH; USNM 613967; UMMZ. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Taylor stated that another paratype was in the S. S. Berry collection, No. 13258, but that specimen could not be found at SBMNH. Hershler & Thompson (1992: 111) concluded that this taxon was a junior synonym of *Tryonia protea* (Gould, 1855).
- intermontana*, *Radix* – Taylor, 1966b: 68. Replacement name for *Lymnaea idahoensis* Yen (1946: 490, pl. 76, fig. 8), *non* Henderson, 1931. Bear Lake Co., Idaho. Salt Lake Group, Pliocene. Holotype USNM 559955; paratype USNM 559956. Gastropoda: Pulmonata: Lymnaeidae.
- jaliscoensis*, *Amecanauta* – Taylor, 2003: 73–74, figs. 49–52, pl. 1, fig. 3, map fig. 15. Type locality: roadside ditch on W side of Mexico 200, opposite entrance to “Modulo de Abasto” de Puerto Vallarta, 2.2 km NE of entrance to airport, 20°41.48'N, 105°13.95'W, Jalisco, Puerto Vallarta. Holotype CAS 114813; paratypes CAS 114800; BMNH 20001306; MCZ 302596; ZIBM CNMO 1159. Gastropoda: Pulmonata: Physidae.
- junturae*, *Fluminicola* – Taylor, 1963a: 38, figs. 8–10. Type locality: USGS loc. 21173, Malheur Co., Oregon. Black Butte local fauna, Juntura Formation, Miocene. Holotype USNM 563115. Gastropoda: Prosobranchia: Hydrobiidae. Transferred to *Lithoglyphus* by Taylor (1975: 105).
- junturae*, *Radix* – Taylor, 1963a: 38, 40, figs. 11–18. Type locality: USGS loc. 21173, Malheur Co., Oregon. Black Butte local fauna, Juntura Formation, Miocene. Holotype USNM 563107; paratypes USNM 563108, 563109. Gastropoda: Prosobranchia: Lymnaeidae.
- kolobensis*, *Fontelicella* – Taylor, 1987: 19–20, fig. 8. Type locality: Toquerville Springs, sec. 35, T. 40S, R. 13W, Washington Co., Utah. Holotype LACM 2216; FLMNH 160940; USNM 854076. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 44) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886, and concluded that *Fontelicella pinetorum* Taylor, 1987, was a junior synonym of this taxon.
- kosteri*, *Tryonia* (*Paupertryonia*) – Taylor, 1987: 45–47, fig. 23. Type locality: Sago Spring, 900 ft W, 2,400 ft S, sec. 5, T. 10S, R. 25E, Chaves Co., New Mexico. Holotype LACM 2252; paratypes UTEP 10064; ANSP 376028; FLMNH 160950, 160951; USNM 854081, 854091. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (2001: 15) re-described this species and transferred it to *Durangonella* Morrison, 1945; subsequently, Hershler et al. (2002: 172–182) concluded that *Durangonella* was a junior synonym of *Tryonia* Stimpson, 1865, and described *Juturnia* as a new genus for this and two other species.
- lassenii*, *Vorticifex* – Taylor in Taylor & Smith, 1981: 349, 352–353, pl. 2, figs. 8, 9. Type locality: shore of historical Honey Lake (now dry), at about 3,980 ft, Lassen Co., California. Holotype UMMZ 250100. Gastropoda: Pulmonata: Planorbidae.
- Laurentiphysa* Taylor, 2003: 152. Type species: *Physa vernalis* Taylor & Jokinen, 1985; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.
- lavernensis*, *Gastrocopta* (*Gastrocopta*) – Taylor, 1954d: 11. Type locality: NW 1/4 sec. 5,

T. 3N, R. 28E, Beaver Co., Oklahoma. Laverne Formation, Lower Pliocene. Holotype UMMZ 181274; paratypes UMMZ 181275. Gastropoda: Pulmonata: Pupillidae. "Lithoglyphinae" Taylor, 1966c: 182. As a new subfamily for *Lithoglyphus* Hartman, 1821, but this taxon was already established as a family-level taxon by Tryon (1866: 156), so Taylor is not to be credited as the author of this subfamily, pursuant to ICZN Article 36.1 ("A name established for a taxon at any rank in the family group is deemed to have been simultaneously established for nominal taxa at all other ranks in the family group ... The name has the same authorship and date at every rank."). Gastropoda: Prosobranchia: Hydrobiidae.

"Littoridininae" Taylor, 1966c: 182. As a new subfamily for *Littoridina* and numerous genera, but this taxon was already established as a family-level taxon by Thiele (1928: 372, 378), so Taylor is not to be credited as the author of this subfamily, pursuant to ICZN Article 36.1 ("A name established for a taxon at any rank in the family group is deemed to have been simultaneously established for nominal taxa at all other ranks in the family group ... The name has the same authorship and date at every rank."). Gastropoda: Prosobranchia: Hydrobiidae.

Iugoi, *Mexipyrghus* – Taylor, 1966c: 192, pl. 17, figs. 42–45. Type locality: Río Mesquites, at the main road, 9 km SW of Cuatro Ciénegas, Coahuila, Mexico. Holotype UMMZ 220185. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 87–104) and Hershler & Thompson (1992: 78) concluded that this species was a junior synonym of *Mexipyrghus carranzae* Taylor, 1966.

Lutrilimnea Taylor in Taylor & Smith, 1981: 360–361. Type species *Lutrilimnea polyskelidis* Taylor in Taylor & Smith, 1981; original designation. Gastropoda: Pulmonata: Lymnaeidae.

Mayabina Taylor, 2003: 88–92. Type species *Physa cisternina* Morelet, 1851; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*. Taylor (2003: 88, 104) stated that *Physa cisternina* Morelet, 1851, was the type species, but he also listed that taxon as a junior synonym of *Physa spiculata* Morelet, 1849.

megachlamys [sic], *Physa* – Taylor in Wu & Brandauer, 1982: 7, *nomen nudum*.

megalochlamys, *Physa* – Taylor, 1988c: 55–62, fig. 3. Type locality: Lily Pond besides

US Highway 26-89-187, NW 1/4 sec. 19, T. 45N, R. 114W, Teton Co., Wyoming. Holotype LACM 2255; paratypes UC 30260. Gastropoda: Pulmonata: Physidae. Notes: Although Taylor stated that the holotype was deposited in the LACM, it cannot now be found there and evidently was never deposited or was later removed from the incipient type collection. Taylor (2003: 164, figs. 159–162, pl. 8, fig. 3) redescribed this taxon, and stated that the holotype was "CAS 114779," presumably the specimen that was supposed to have been deposited in the LACM. *melina*, *Fontelicella* (*Natricola*) – Taylor in Taylor & Smith, 1981: 348, 350–352, pl. 2, figs. 1, 2. Type locality: Honey Lake, SE 1/4 NW 1/4 sec. 27, elevation 3,995 ft, Lassen Co., California. Pleistocene? Holotype UMMZ 250095. Gastropoda: Prosobranchia: Hydrobiidae.

metcalfi, *Fontelicella* – Taylor, 1987: 12–14, fig. 5. Type locality: Naegele Springs, 5.3 mi NNW of Ruidosa, Presidio Co., Texas. Holotype LACM 2212; paratypes UTEP 10055; ANSP 376024; FLMNH 160937; USNM 854077. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 49) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.

Mexinauta Taylor, 2003: 74–76. Type species *Physa nitens* Philippi, 1841; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.

Mexipyrghus Taylor, 1966c: 188–189. Type species *Mexipyrghus carranzae* Taylor, 1966; original designation. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 87–105) reviewed the six included species and concluded that they all represented a single polytypic taxon. Hershler & Thompson (1992: 75–78) transferred this genus from the Littoridininae to the Cochliopinae.

Mexithauma Taylor, 1966c: 205. Type species *Mexithauma quadripaludium* Taylor, 1966; original designation. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 72–78) transferred this monotypic genus from Mexithaumatinae to Littoridininae (= Cochliopinae) and redescribed the type species.

Mexithaumatinae Taylor, 1966c: 204. Described as a subfamily, questionably placed in the Hydrobiidae, for *Mexithauma* Taylor, 1966. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1984: 65–66) and

- Hershler & Thompson (1992: 6) concluded that this subfamily was a junior synonym of Cochliopinae Tryon, 1866 (formerly Littoridininae).
- Microamnicola* Gregg & Taylor, 1965: 109. Described as a subgenus of *Fontelicella* Gregg & Taylor, 1965. Type species *Fontelicella (Microamnicola) micrococcus* (Pilsbry in Stearns, 1893); original designation. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler & Thompson (1987: 28) and Hershler (1994: 5–11) concluded that this taxon was a junior synonym of *Pyrgulopsis* Call & Pilsbry, 1886.
- micromphalus*, *Menetus* (?) – Taylor, 1954c: 74–75, pl. 20, figs. 4–9. Type locality: W end of Barstow Hills, 7 mi N of Barstow, “Lake Bed Horizon” in the canyon next S of Pirie Canyon, middle of SW 1/4, sec. 15, T. 11N, R. 2W, San Bernardino Co., California. Barstow Formation, Upper Miocene. Holotype Taylor collection 2038a; paratypes Taylor collection 2038; CAS 70416 (ex SU 8079), CAS 70417 (ex SU 8080); USNM 561451. Gastropoda: Pulmonata: Planorbidae.
- milleri*, *Cochliopina* – Taylor, 1966c: 177–178, text figs. 6, 7, pl. 13, figs. 12, 13. Type locality: Río Mesquites, at the main road 9 km SW of Cuatro Ciénegas, Coahuila, Mexico. Holotype UMMZ 220182. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 68–70) redescribed this taxon.
- minckleyi*, *Nymphophilus* – Taylor, 1966c: 199–203, pl. 13, figs. 15, 17, text figs. 17–21. Type locality: Río Mesquites, at the main road 9 km SW of Cuatro Ciénegas, Coahuila, Mexico. Holotype UMMZ 220188. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 38–45) redescribed this taxon.
- minutus*, *Promenetus* – Taylor, 1954a: 37–38. Type locality: Allee Stream, opposite laboratory, Barro Colorado Island, Gatun Lake, Panama Canal Zone, Panama. Holotype USNM 605858 (ex USNM 588913); paratypes USNM 588913; UMMZ 181122. Gastropoda: Pulmonata: Planorbidae.
- mirolli*, *Physa* – Taylor, 2003: 165–166. For *Physa fontinalis sensu* Mirolli (1958: 245–247, pls. 24–26) *non Physa fontinalis* (Linnaeus, 1758). Italy. Holotype “the shell illustrated by Mirolli (1958: pl. 24, fig. 1).” Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.
- mohaveana*, *Lymnaea (Stagnicola)* – Taylor, 1954c: 73, pl. 20, figs. 1, 2. Type locality: W end of Barstow Hills, 7 mi N of Barstow, middle of SE 1/4 sec. 15, T. 11N, R. 2W., San Bernardino Co., California. Barstow Formation, Upper Miocene. Holotype SU 8077 (not located in the CAS, Jan. 2008); paratypes CAS 70415 (ex SU 8078); Taylor coll. 1785, 2035; USNM 561488; UCMP 34194–34197. Gastropoda: Pulmonata: Lymnaeidae.
- mojarralis*, *Mexipyrigus* – Taylor, 1966c: 193, pl. 18, figs. 46–49, 51–53. West Laguna in El Mojarral, 1.7 km ENE of the northern tip of Sierra de San Marcos, Coahuila, Mexico. Holotype UMMZ 220192. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 87–104) and Hershler & Thompson (1992: 78) concluded that this species was a junior synonym of *Mexipyrigus carranzae* Taylor, 1966.
- moreleti*, *Haitia* – Taylor, 2003: 146–147, fig. 140, pl. 6, fig. 2, map fig. 15. Type locality: marshy border of Lake Petén-Itzá, Santa Elena, El Petén, Guatemala. Holotype CAS 114821. Gastropoda: Pulmonata: Physidae.
- multilineatus*, *Mexipyrigus* – Taylor, 1966c: 193–194, pl. 18, figs. 50, 54–57. Type locality: East Laguna in El Mojarral, 1.9 km ENE of the northern tip of Sierra de San Marcos, Coahuila, Mexico. Holotype UMMZ 220197. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 87–104) and Hershler & Thompson (1992: 78) concluded that this species was a junior synonym of *Mexipyrigus carranzae* Taylor, 1966.
- Natricola* Gregg & Taylor, 1965: 108–109. Described as a subgenus of *Fontelicella* Gregg & Taylor, 1965. Type species *Fontelicella (Natricola) robusta* (Walker, 1908); original designation. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler & Thompson (1987: 28) and Hershler (1994: 5–11) concluded that this taxon was a junior synonym of *Pyrgulopsis* Call & Pilsbry, 1886. Hershler & Liu (2004a) discussed the three Recent species included by Gregg & Taylor in “*Natricola*” and concluded that only the type species was valid, with the others being junior synonyms.
- natricina*, *Physa (Haitia)* – Taylor, 1988c: 67, fig. 6, map fig. 7. Type locality: Snake River, in rapids along E side, SW 1/4 SE 1/4 sec. 21, T. 6S, R. 13E., Gooding Co., Idaho. Holotype LACM “2256” [= LACM 2970]. Gastropoda: Pulmonata: Physidae. Notes: As

- LACM 2256 was inadvertently used for another author's type specimen, Taylor's holotype was catalogued as LACM 2970. Taylor (2003: 147) erroneously stated that the holotype was "CAS 114795." Rogers & Wethington (2007) discussed the "paratypes" of this species, but Taylor only specified the holotype, and the remaining listed specimens were not given any type status, so there are no paratypes (ICZN Articles 72.4.6 and 73.1.1). They also stated that they could not find the "paratypes" in the "US Geological Survey Western Ecological Resource Center," but the USGS numbers in Taylor's description are USGS station numbers, not specimen catalog numbers. Rogers & Wethington (2007) concluded that this taxon was a junior synonym of *Physa acuta* Draparnaud, 1805; these authors are continuing their genetic studies of these and related taxa (A. Wethington to A. R. Kabat, *in litt.*, Nov. 29, 2007).
- nevadense*, *Sphaerium* (*Amesoda*) – Taylor in Taylor & Smith, 1981: 356357, pl. 3, figs. 1–6. Type locality: limestone and coquina beds, NW 1/4 sec. 17, T. 23N, R. 29E, Mopung Hills, Churchill Co., Nevada. Pliocene. Holotype UMMZ 250102 [right valve only]. Bivalvia: Sphaeriidae.
- nevadensis*, *Valvata* – Taylor in Taylor & Smith, 1981: 357–358, pl. 3, figs. 7–12. Type locality: limestone and coquina beds, SW 1/4 sec. 17, T. 23N, R. 29E, strike N 60° W, dip 4° NE, thickness 15–20 ft, weathering on the service 1100–1300 ft E, 1300–1400 ft N of the SW section corner, Mopung Hills, Churchill Co., Nevada. Pliocene. Holotype UMMZ 250104. Gastropoda: Heterobranchia: Valvatidae.
- Nymphophilinae* Taylor, 1966c: 199. Described as a subfamily in the Hydrobiidae, for *Nymphophilus* Taylor, 1966. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Thompson (1979) redescribed this subfamily, which he treated as a senior synonym of Orientaliidae Radoman, 1973, and concluded that 14 other genera should be included. Hershler et al. (2003) concluded that the North American taxa of this subfamily probably formed a monophyletic clade. Ponder & Bouchet (2005: 252) listed *Nymphophilinae* as a valid subfamily in the Hydrobiidae *s. str.*
- Nymphophilus* Taylor, 1966c: 199. Type species *Nymphophilus minckleyi* Taylor, 1966; original designation. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Thompson (1979) and Hershler (1985: 38–45) re-described this genus and its included species. Liu & Hershler (2005: 291–292, 296) concluded that *Nymphophilus* "is little differentiated from *Pyrgulopsis* apart from the unusual shell of its type species," and the cladistic analyses consistently placed the species of the former genus within the latter genus, thereby warranting treating *Nymphophilus* as a junior synonym of *Pyrgulopsis* Call & Pilsbry, 1886.
- Oreobasis* Taylor, 1966b: 41. Described as a subgenus of *Juga* H. Adams & A. Adams, 1854. Type species *Melania newberryi* Lea, 1860; original designation. Taylor also suggested that this species was "probably" a junior synonym of *Melania bulbosa* Gould, 1847. Gastropoda: Prosobranchia: Pleuroceridae.
- Oreoconus* Taylor in McKenna et al., 1962: 11. Type species *Oreoconus planispira* Taylor in McKenna et al., 1962; original designation. Gastropoda: Pulmonata: Bulimulidae.
- pachyostrakon*, *Craterarion* – Taylor, 1954c: 75, pl. 20, figs. 16–20. Type locality: W end of Barstow Hills, 7 mi N of Barstow, "Lake Bed Horizon" in the canyon next S of Pirie Canyon, middle of SE 1/4, sec. 15, T. 11N, R. 2W, San Bernardino Co., California. Barstow Formation, Upper Miocene. Holotype CAS 70410 (ex Stanford Univ. 8073); paratypes CAS 70412 (ex Stanford Univ. 8074), 70411 (ex CAS 10215, 10215a-k); Taylor collection 1791; S. S. Berry collection 19936; LACMIP 4920, 4921 (ex W.O. Gregg collection 5924); UCMP 34183; USNM 561449. Gastropoda: Pulmonata: Arionidae. Notes: the paratype in the S. S. Berry collection cannot now be located in the SBMNH, and may no longer be extant (P. Valentich-Scott to A. R. Kabat, *in litt.*, Mar. 6, 2007).
- pacifica*, *Chiapaphysa* – Taylor, 2003: 170–171, fig. 168, pl. 8, fig. 8, map fig. 165. Type locality: Río Tenorito, Hacienda La Pacífica, 10°29.02'N, 85°9.58'W, Guanacaste, Costa Rica. Holotype CAS 114784; paratypes MZUCR-INB0003382239. Gastropoda: Pulmonata: Physidae.
- Paludiscula* Taylor, 1966c: 207. Type species *Paludiscula caramba* Taylor, 1966; original designation. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Taylor questionably placed this monotypic genus in the Hydrobiidae; Hershler (1985: 58–64) and Hershler & Thompson (1992: 85–87) re-described this genus and concluded that it belonged in the Cochliopinae.

- Paludiscalinae Taylor, 1966c: 207. Described as a subfamily in the Hydrobiidae, for *Paludiscala* Taylor, 1966. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1984: 65–66) and Hershler & Thompson (1992: 86–87) concluded that this subfamily was a junior synonym of Cochliopinae Stimpson, 1865 (formerly Littoridininae).
- Paupertryonia* Taylor, 1987: 38. Type species *Potamopyrgus cheatumi* Pilsbry, 1935; original designation. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler & Thompson (1992: 107) concluded that this genus was a junior synonym of *Tryonia* Stimpson, 1865.
- pecos*, *Assimineia* – Taylor, 1987: 8–9, fig. 2. Type locality: seepage at Bitter Lake National Wildlife Refuge, 1,250 ft E, 2,100 ft S, sec. 21, T. 10S, R. 25E, Chaves Co., New Mexico. Holotype LACM 2088; paratypes UTEP 10051. Gastropoda: Prosobranchia: Assimineidae. Notes: Taylor (1987) recorded this species from three localities in the Pecos River basin (near Roswell, New Mexico, and near Fort Stockton, Texas), and from the Cuatro Ciénegas basin (Coahuila, Mexico). Hershler et al. (2007), based on morphological and mitochondrial genetic analyses, determined that the latter population was not conspecific with the former populations, and was probably disjunct since the mid-Pleistocene, if not earlier. Hence, they described *Assimineia cienegensis* as a new species for the Cuatro Ciénegas basin population included by Taylor within *A. pecos*.
- pecosensis*, *Fontelicella* – Taylor, 1987: 27–28, fig. 12. Type locality: Blue Spring, center SW 1/4 sec. 27, T. 24S, R. 26E, Eddy Co., New Mexico. Holotype LACM 2220; paratypes UTEP 10056; ANSP 376021; FLMNH 160935, 160933; USNM 854084. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 59) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.
- Pecosorbis* Taylor, 1985a: 5–6. Type species *Biomphalaria kansasensis* E. G. Berry in E. G. Berry & Miller, 1966; original designation. Pliocene-Recent. Gastropoda: Pulmonata: Planorbidae.
- petenensis*, *Mayabina* – Taylor, 2003: 96–97, fig. 77, pl. 3, fig. 10, map fig. 69. Type locality: Aguado, at NE side of La Libertad, 16°47.30'N, 90°6.49'W, 200 m, El Petén, Guatemala. Holotype CAS 114811; paratypes CAS 114823; BMNH 20001310. Gastropoda: Pulmonata: Physidae.
- Phreatomenetus* Taylor, 1960b: 60. Described as a subgenus of *Promenetus* F. C. Baker, 1935. Type species *Promenetus umbilicatellus* (Cockerell, 1887); original designation. Gastropoda: Pulmonata: Planorbidae.
- Physellini Taylor, 2003: 167. Described as a tribe in the subfamily Physinae, for *Physella* Haldeman, 1843, *Chiapaphysa*, *Costatella*, *Petrophysa*, *Utahphysa*, and *Ultraphysella*. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.
- “Physini” Taylor, 2003: 152. Gastropoda: Pulmonata: Physidae. However, this taxon was already established as a family-level name by Fitzinger (1833), so Taylor is not to be credited as the author of this tribe, pursuant to ICZN Article 36.1 (“A name established for a taxon at any rank in the family group is deemed to have been simultaneously established for nominal taxa at all other ranks in the family group ... The name has the same authorship and date at every rank.”).
- pinetorum*, *Fontelicella* – Taylor, 1987: 20–21, fig. 9. Type locality: spring tributary to Leeds Creek, 2,400 ft W, 2,300 ft N, sec. 16, T. 40S, R. 14W, Washington Co., Utah. Holotype LACM 2217; FLMNH 160946; USNM 854083. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 44) concluded that this taxon was a junior synonym of *Pyrgulopsis kolobensis* (Taylor, 1987).
- planispira*, *Oreoconus* – Taylor in McKenna et al., 1962: 11–15, figs. 2–4. Type locality: USGS Cenozoic loc. 20079; sec. 34, T. 27N, R. 97W, Fremont Co., Wyoming. Eocene. Holotype USNM 647848. Gastropoda: Pulmonata: Bulimulidae.
- Pliopholygidae Taylor, 1966b: 128. New family in the Viviparacea, for *Pliopholyx* Yen, 1944. Pliocene. Gastropoda: Prosobranchia: Viviparoidea. Notes: Taylor transferred the type genus from the Planorbidae (Pulmonata) to this new family, and stated that this genus had ten species (three described), all from the late Pliocene, Glenss Ferry and Cache Valley formations, southern Idaho and northern Utah. However, the seven undescribed species remain manuscript names.
- polita*, *Mayabina* – Taylor, 2003: 99–102, figs. 80–84, pl. 5, figs. 1, 2, map fig. 69. Type locality: pasture pool, 50 m W of Río Tulija, 1.5 km S of Mexico Highway 186 toward Zopo Norte, 17°39.6'N, 92°24.7'W, Tabasco,

- Mexico. Holotype CAS 114783; paratypes CAS 114817; BMNH 20001311; ZIBM CMNO 1160. Gastropoda: Pulmonata: Physidae.
- polyskelidis*, *Lutrilmnea* – Taylor in Taylor & Smith, 1981: 361–363, pls. 5–7. Type locality: limestone and coquina beds, SW 1/4 sec. 17, T. 23N, R. 29E, strike N 60° W, dip 4° NE, thickness 15–20 ft, weathering on the service 1100–1300 ft E, 1300–1400 ft N of the SW section corner, Mopung Hills, Churchill Co., Nevada. Pliocene. Holotype UMMZ 250106. Gastropoda: Pulmonata: Lymnaeidae.
- Potamopyrgue* Taylor, 1987: 38. Error for *Potamopyrgus* Stimpson, 1865.
- quadripaludium*, *Mexithauma* – Taylor, 1966c: 205–207, pl. 19, figs. 58–63, text fig. 22. Type locality: Laguna Tío Candido, 14 km S of Cuatro Ciénegas, Coahuila, Mexico. Holotype UMMZ 220214. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1985: 72–78) redescribed this taxon.
- rexroadensis*, *Polygyra* (*Erymodon*) – Taylor, 1960b: 82, pl. 1, figs. 17, 23, pl. 2, figs. 4, 5. Type locality: Fox Canyon, Univ. Michigan loc. UM-K1-47, Sec. 35, T. 34S, R. 30W, a lenticular bed of blue-gray clay, 10 ft below the caliche, Meade Co., Kansas. Late Pliocene. Holotype UMMZ 177610-a; paratypes UMMZ 177610, 183050, 183082. Gastropoda: Pulmonata: Polygyridae.
- roswellensis*, *Fontelicella* – Taylor, 1987: 14–16, fig. 6. Type locality: seepage 1,250 ft E, 2,100 ft S, sec. 21, T. 10S, R. 25E, Chaves Co., New Mexico. Holotype LACM 2213; paratypes UTEP 10057. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 63) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.
- sanctijohannis*, *Mayabina* – Taylor, 2003: 102–104, fig. 85, pl. 3, figs. 5, 6, map figs. 15, 69. Type locality: Barra del Colorado, 10°46.37'N, 83°35.27'W, Limón, Costa Rica. Holotype CAS 114790; paratypes CAS 114780; BMNH 20001312; MZUCR-INB0003382237; MZUCR 69-1. Gastropoda: Pulmonata: Physidae.
- sanguinichristi*, *Pisidium* (*Cyclocalyx*) – Taylor, 1987: 47–48, fig. 24. Type locality: Middle Fork Lake, a cirque lake at 10,845 ft (3,306 m) elevation, Sangre de Cristo Mountains, Taos Co., New Mexico. Holotype LACM 2258. Bivalvia: Sphaeriidae.
- Savaginius* Taylor, 1966b: 130. Type species *Paludestrina nanna* Chamberlin & Berry, 1933; original designation. Pliocene and Pleistocene. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 5, 13) concluded that this taxon was a junior synonym of *Pyrgulopsis* Call & Pilsbry, 1886.
- scaevoscala*, *Gastrocopta* (*Gastrocopta*) – Taylor, 1960b: 70, pl. 1, figs. 33, 34. Type locality: along the banks of a tributary of Stump Arroyo, SE 1/4 SW 1/4 and SW 1/4 SE 1/4 sec. 22, T. 33S, R. 29W, Meade Co., Kansas. Bender local fauna, Late Pliocene and early Pleistocene. Holotype UMMZ 184320; paratypes UMMZ 184125, 183017. Gastropoda: Pulmonata: Pupillidae.
- shotwelli*, *Carinifex* – Taylor, 1963a: 40, figs. 19–36. USGS loc. 21173, Malheur Co., Oregon. Black Butte local fauna, Juntura Formation, Miocene. Holotype USNM 563110; paratypes USNM 563111, 563112, 563113, 563114. Gastropoda: Pulmonata: Planorbidae.
- sinaloae*, *Ultrapphysella* – Taylor, 2003: 192, figs. 187–191, pl. 9, fig. 1, map fig. 15. Type locality: pool at road 2.5 mi from Villa Unión toward Siquerios, 23°13.4'N, 106°12.5'W, Sinaloa, Mexico. Holotype CAS 146096. Gastropoda: Pulmonata: Physidae.
- sinusdulcensis*, *Tropinauta* – Taylor, 2003: 111, figs. 91–94. Type locality: small stream in pasture 3 km SE of Golfito, 8°36.68'N, 83°8.48'W, Puntarenas, Costa Rica. Holotype CAS 146095; paratypes MZUCR-INB0003382246. Gastropoda: Pulmonata: Physidae.
- skinneri*, *Physa* – Taylor, 1954d: 9. Type locality: SE corner of sec. 6, T. 5N, R. 28E, Beaver Co., Oklahoma. Pleistocene, probably Illinoian age, Berends fauna. Holotype UMMZ 181292; paratypes UMMZ 177533; MCZ 198177; USNM 562010. Gastropoda: Pulmonata: Physidae. Notes: Taylor (1988: 45–55, fig. 1; 2003: 166–167, fig. 156) redescribed this species.
- sonomae*, *Archiphysa* – Taylor, 2003: 183–184, pl. 10, figs. 4, 7, map fig. 176. Type locality: artificial pond, 2,500 ft S, 4,300 ft W, sec. 30, T. 9N, R. 9W, Sonoma Co., California. Holotype CAS 114807; paratypes CAS 114803. Gastropoda: Pulmonata: Physidae.
- spathidophallus*, *Stenophysa* – Taylor, 2003: 121–123, figs. 110–116, pl. 8, fig. 9. Type locality: ditch from Seletar Reservoir, 100 m W of Upper Thompson Road, Singapore. Holotype CAS 114804. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2003: 123) concluded that this species was probably “transported through the trade in tropical fish,” and that “I speculate it may [actually] occur in northeastern South America.”

Stenophysini Taylor, 2003: 111. New tribe in the subfamily Aplexinae, for *Stenophysa* Martens, 1898, *Afrophysa* Starobogatov, 1967, and a “name uncertain” group in Argentina and perhaps adjacent countries. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.

stocktonensis, *Tryonia* – Taylor, 1987: 37–38, fig. 18. Type locality: Diamond Y Draw, 9 mi N of Fort Stockton and 0.5 mi W of State Highway 18, Pecos Co., Texas. Holotype LACM 2090; paratypes UTEP 10065; ANSP 376030; FLMNH 160947; USNM 854092. Gastropoda: Prosobranchia: Physidae. Notes: Hershler & Thompson (1992: 110) concluded that this taxon was a junior synonym of *Tryonia circumstriata* Leonard & Ho, 1960.

tempisquensis, *Mayabina* – Taylor, 2003: 109, fig. 90, pl. 4, fig. 4, map figs. 15, 68. Type locality: Parque Nacional Palo Verde, edge of marshes 100 m E of W end of airstrip, 10°20.68'N, 85°20.60'W, Guanacaste, Costa Rica. Holotype CAS 146092; paratypes MZUCR 70-01, MZUCR-INB0003382244. Gastropoda: Pulmonata: Physidae.

thermalis, *Fontelicella* – Taylor, 1987: 28–30, fig. 13. Type locality: hot spring on E side of Gila River, NE 1/4 SW 1/4 sec. 17, T. 13S, R. 13W, Grant Co., New Mexico. Holotype LACM 2224; paratypes UTEP 10058; ANSP 376026; FLMNH 160941; USNM 854086. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 66) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.

trivialis, *Fontelicella* – Taylor, 1987: 30–32, fig. 14. Type locality: spring-fed pond, 1,000 ft N of SW corner, sec. 5, T. 5N, R. 29E, Apache Co., Arizona. Holotype LACM 2225; paratypes UTEP 10059; ANSP 376022; FLMNH 160945; USNM 854080. Gastropoda: Prosobranchia: Hydrobiidae. Notes: *Pyrgulopsis confluentis* Hershler in Hershler & Landye, 1988: 32–35 is a junior subjective synonym of *Fontelicella trivialis* Taylor, 1987 (*fide* Hershler & Landye, 1988: 58). Hershler (1994: 68) recognized this taxon as a valid species of *Pyrgulopsis* Call & Pilsbry, 1886.

Tropinauta Taylor, 2003: 110–111. Type species *Tropinauta sinusdulcensis* Taylor, 2003; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.

Ultrapphysella Taylor, 2003: 191. Type species *Ultrapphysella sinaloae* Taylor, 2003; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.

ursina, *Lutrilmnea* – Taylor in Taylor & Smith, 1981: 364–366, pl. 9. Type locality: drift on shore at S end of Bear Lake, SW 1/4 sec. 23, T. 13N, R. 5E, Rich Co., Utah. Holocene (“became extinct about 8,000 years ago”). Holotype UMMZ 250113. Gastropoda: Pulmonata: Lymnaeidae.

Utahphysa Taylor, 2003: 175–177. Type species *Aplexa microstriata* Chamberlin & Berry, 1930; original designation. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2002a: 25) previously used this name as a *nomen nudum*.

vernalis, *Physa* – Taylor & Jokinen, 1984: 190, figs. 1–11. Type locality: Bluebird Pond, site no. 240, Windham, Windham Co., Connecticut. Holotype MCZ 294071. Gastropoda: Pulmonata: Physidae. Notes: Taylor (2003: 157, figs. 153–155, pl. 8, fig. 2, map fig. 147) transferred this species to *Laurentiphysa* Taylor, 2003.

wilsoni, *Planorbella* (*Seminolina*) – Taylor, 1966b: 111–113, pl. 8, figs. 7–9. Type locality: USGS Cenozoic loc. 22704, “unit A,” Belle Glade, Palm Beach Co., Florida. Late Pliocene or early Pleistocene. Holotype USNM 644835. Gastropoda: Pulmonata: Planorbidae.

Yaquicoccus Taylor, 1987: 34. Type species *Yaquicoccus bernardinus* Taylor, 1987; original designation. Gastropoda: Prosobranchia: Hydrobiidae. Notes: Hershler (1994: 5, 13) concluded that this taxon was a junior synonym of *Pyrgulopsis* Call & Pilsbry, 1886.

Eponyms

Taylorconcha Hershler et al., 1994: 233. Type species *Taylorconcha serpenticola* Hershler et al., 1994. Gastropoda: Prosobranchia: Hydrobiidae. Notes: “Honoring Dwight Taylor, for his discovery and early work on this genus and, more generally, in recognition of his lifetime of fieldwork and research on the systematics, biology, and biogeography of the freshwater molluscan fauna of western North America.” The type species, commonly known as the “Bliss Rapids Snail,” was recommended by Taylor in his 1982 report to the USFWS for listing as an endangered species, and was subsequently listed as a threatened species.

- taylori*, *Hadoceras* – Hershler & Longley, 1986: 121–136. Gastropoda: Prosobranchia: Hydrobiidae. Notes: “Named after Dwight Taylor in recognition for his discovery of this species and immense contributions to the study of west American freshwater mollusks.”
- taylori*, *Helminthoglypta* (*Coyote*) – Reeder & Roth, 1988: 254–256. Gastropoda: Pulmonata: Helminthoglyptidae.
- taylori*, *Pyrgulopsis* – Hershler, 1995: 363–364. Gastropoda: Prosobranchia: Hydrobiidae. Notes: “This species is named in honor of Dwight W. Taylor, in recognition of his many years of fieldwork and associated research on hydrobiids both in California and throughout the western United States.”
- taylori*, *Radiocentrum* – Roth, 1986: 249. Gastropoda: Pulmonata: Punctoidea.

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The publications are listed in chronological order, without regard to senior authorship of multiple-authored papers. An asterisk (*) indicates publications with no new taxa. Unpublished agency reports and other manuscripts are not included herein.

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